ENVIRONMENTAL ASSESSMENT

STOCKTON ATLAS TRACT LEVEE ALTERATION PROJECT

U.S. ARMY CORPS OF ENGINEERS

SACRAMENTO DISTRICT

LSA

October 2008

ENVIRONMENTAL ASSESSMENT

STOCKTON ATLAS TRACT LEVEE ALTERATION PROJECT

STOCKTON, CALIFORNIA

Submitted to:

U.S. Army Corps of Engineers-
Sacramento District
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Sacramento, California 95814

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LSA Project No. AGS0601

LSA

October 2008

SUMMARY

This Environmental Assessment (EA) has been prepared for the United States Army Corps of Engineers (Corps) subject to the National Environmental Policy Act (NEPA), 42 U.S.C. 4332(2)(C) for projects that could have adverse impacts on the environment. It has been determined that this Stockton Atlas Tract Levee Alteration Project (SATLAP) will be evaluated as a post-authorization change (PAC), per Engineering Regulation 1105-2-100, Appendix G, and is being prepared per ER 1105-2-100, Appendix G, paragraph G-16, as applicable.

This summary generally describes the effects of the proposed project and mitigation measures required to reduce the impacts that are of importance to the project. A more detailed analysis of impacts is provided in Section 3.0, Environmental Analysis. Table S.1 presents a summary of this information.

S.1 PROPOSED ACTION

The City of Stockton (City) proposes to re-align and reconstruct the existing Stockton Atlas Tract Federal Project Levee as the proposed project action. By re-aligning the existing levee to the west, sufficient right-of-way will be created to allow extension of Trinity Parkway (Phases 1 and 2) as a four lane minor arterial between Bear Creek and Mosher Slough in the City of Stockton, California. The proposed project is located west of Interstate 5 (I-5) south of Bear Creek.

The existing levee extends along the western edge of the undeveloped Trinity Parkway right-of-way (in a north-south direction). The existing levee would be realigned approximately 300 feet to the west by placing engineering fill, constructing an approximately 4,000 linear foot levee and degrading the existing levee. Project construction would also involve the installation of utility lines and an extension to existing Otto Drive, including ramps perpendicular to and across the proposed levee. Four build alternatives, including the No Build Alternative, have been evaluated in this EA.

As part of the Phase 1 Trinity Parkway extension, two vehicular travel lanes will be constructed between Bear Creek and Otto Drive. As Trinity Parkway is currently designed, construction of two lanes for Phase 1 will require relocation of the existing levee to avoid encroaching into the levee. It should be noted that a “No Build” Alternative is presented in this environmental document that retains the existing levee in place while shifting the two travel lanes to the east to avoid levee encroachment.

Phase 2 of Trinity Parkway extension entails the approval and ultimate construction of the remaining two travel lanes between Bear Creek and Otto Drive, as well as all four vehicular travel lanes from Otto Drive to Mosher Slough. Vehicular travel would be restricted to two lanes in this latter segment until the future phases of the roadway are in place and operational.

Table S.1: Summary of Potential Impacts from Alternatives

Potential Impact	Alternative 1 (Proposed Project)	Alternative 2 (No Build)	Alternative 3 (No Levee)	Alternative 4 (Levee Expansion)
Air quality	Temporary construction impacts	Temporary construction impacts	Temporary construction impacts	Temporary construction impacts
Noise	Noise levels at adjacent residences exceed 60 dbA Temporary construction impacts	Noise levels at adjacent residences exceed 60 dbA Temporary construction impacts	Noise levels at adjacent residences exceed 60 dbA Temporary construction impacts	Noise levels at adjacent residences exceed 60 dbA Temporary construction impacts
Floodplain	No impact	No impact	No impact	No impact
Water quality	Impacts will be mitigated through implementation of BMPs	Impacts will be mitigated through implementation of BMPs	Impacts will be mitigated through implementation of BMPs	Impacts will be mitigated through implementation of BMPs
Wetlands, waters of the U.S., and CDFG waters	No impact	No impact	No impact	No impact
Wildlife and vegetation	No impact	No impact	No impact	No impact
Threatened or endangered species	Impacts and mitigation measures are identified in Chapter 3	Impacts and mitigation measures are identified in Chapter 3	Impacts and mitigation measures are identified in Chapter 3	Impacts and mitigation measures are identified in Chapter 3
Historic and archaeological preservation	No impact	No impact	No impact	No impact
Visual	Less than significant with mitigation	Less than significant with mitigation	Less that significant with mitigation	Less than significant with mitigation
Traffic/Circulation	Less than significant with mitigation	Less than significant with mitigation	Less that significant with mitigation	Less than significant with mitigation
Cumulative impacts	No significant cumulative impacts	No significant cumulative impacts	No significant cumulative impacts	No significant cumulative impacts

The existing levee is designated as a Federal "project" levee, those levees that were constructed as part of the Calaveras River and LittleJohn Creek and Tributaries, Stockton, California and are the responsibility of the Corps. It has been determined that this project will be reviewed as a PAC pursuant to Engineering Regulation, (ER) 1105-2-100, Appendix G, Paragraph G-16) allowing modification of the federal project as proposed by the City. Federal authorization consists of the Division Commander's approval of significant modifications or alterations to a locally or federally maintained Corps project consistent with the requirements of Engineering Regulation (ER) 1105-2-100, Appendix G, Paragraph G-16. The California Central Valley Flood Protection Board (CVFPB) is the non-federal project sponsor and Reclamation District No. 2126 is the local project sponsor for this project.

NEPA compliance is triggered by a discretionary federal action. The Corps is the lead agency under NEPA because the Corps has jurisdiction over and is responsible for certification of "project" levees. Prior to approval of the proposed action, the Corps must comply with NEPA and regulations published by the Council on Environmental Quality (Title 40 Code of Federal Regulations [CFR] Parts 1500-1508). This document serves as an EA, prepared in accordance with NEPA and associated federal guidelines. An EA is a concise document, prepared with input from various disciplines and interested parties that provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a FONSI. As required under NEPA, this EA provides information describing the Proposed Action, alternatives, and related environmental consequences. After review of the EA, the Corps will decide whether to authorize the action (Post-Authorization Change) pursuant to Engineering Regulation, (ER) 1105-2-100, Appendix G, Paragraph G-16.

S.2 PROJECT ALTERNATIVES

The proposed SATLAP is located in the northwestern portion of the City of Stockton. The project is situated adjacent to and west of the Twin Creeks Subdivision, south of Bear Creek and north of Mosher Slough. The four project alternatives are summarized below. Additional information on each alternative is provided in Section 2.0.

Alternative 1 (Proposed Project). The proposed project involves the alteration of the alignment of the existing levee that extends along the western edge of the Trinity Parkway right-of-way (in a north-south direction). Realignment of the levee of up to 300 feet to the west, as measured from western toe of the existing levee to western toe of the proposed levee is required to construct the complete four lane minor arterial cross section of Trinity Parkway from Bear Creek to Mosher Slough. At the Otto Drive intersection, Trinity Parkway will be elevated slightly in anticipation of the future entrance to the proposed Atlas Tract (The Preserve) development project. Trinity Parkway will also be elevated at the southern end of the project to meet the height elevation of the new Perimeter Levee System (PLS) and future Mosher Slough-Trinity Parkway Bridge. The bridge over Mosher Slough will be constructed as a separate project and will require, at a minimum, a United States Coast Guard (USCG) bridge permit. Trinity Parkway will also extend further to the south from the Mosher Slough Bridge and eventually connecting with Hammer Lane to fulfill the City of Stockton's Circulation Element objectives. Vehicular travel on this segment would be subject to subsequent environmental review.

In the summer/fall of 2006, the PLS was improved to provide flood protection estimated to be in excess of the 200-year flood event. Based upon those improvements, the Federal Emergency Management Agency (FEMA) has recently issued a Letter of Map Revision demonstrating that the site now has flood protection exceeding the federal minimum. With the enhanced PLS in place, lands within the Atlas Tract will be protected from tidally influenced delta flood waters, as well as the upstream flooding potential from Bear Creek and Mosher Slough. The PLS improvements will also provide the existing residential uses in the Twin Creek Estates subdivision continued flood protection while construction of the proposed levee occurs without flooding risk to the Twin Creeks Estates residents. Included in the proposed roadway improvements will be utility pipes, water, sewer, streetlights, PG&E joint trench facilities, etc.

Alternative 2 (No Build Alternative). With this alternative, the existing levee would be left in place and Trinity Parkway would be constructed as a two-lane road within the existing roadway right-of-way. In order to access the future Atlas Tract development, the intersection of Trinity Parkway and Otto Drive would be elevated to the height of the existing levee. The raised intersection would require elevated approach ramps from both Otto Drive and Trinity Parkway. For this alternative, "No Build" refers to retaining the existing levee in place.

Alternative 3 (No Levee Alternative). With this alternative, the existing dry land levee would be removed and eliminated allowing for construction of Trinity Parkway as a four-lane road within the existing roadway easement. The PLS would provide flood protection for both the Atlas Tract and adjacent Twin Creek Estates.

Alternative 4 (Levee Expansion Alternative). With this alternative, fill would be added to the east side of the existing levee, such that the roadway can be constructed along the top of the levee. The levee footprint would expand to the east within the existing Trinity Parkway right-of-way. Expansion of the existing dry land levee would require import of a substantial amount of fill material.

S.3 ISSUES TO BE RESOLVED

Issues to be resolved before implementation of the proposed project are:

- Final Project Design
- Right of Way Easements

S.4 PERMITS AND APPROVALS

The proposed levee has fulfilled Section 106 consultation requirements in conjunction with the Office of Historic Preservation (SHPO) review. On June 25, 2008 the SHPO provided concurrence (see letter Attachment A) that the project is not expected to have any effect on historic properties (reference COE080519A).

The following permits and approvals must be obtained in conjunction with the SATLAP project:

- Permit Approval (Sections 8700 – 8723 of the Water Code) - Central Valley Flood Protection Board (CVFPB)
- NPDES permit from the Central Valley Regional Water Quality Control Board

Although a Section 401 certification and 1602 Streambed alteration agreement are not required for the project, which does not involve any work in waters of the U.S. or waters of the State, coordination was conducted with both the California Department of Fish and Game (CDFG) and Central Valley Regional Water Control Board (RWQCB) regarding the need for permits. This coordination resulted in issuance of a 401 certification by the Regional Board (issued October 2, 2007) and a letter from CDFG (dated December 17, 2007) stating that the project could proceed without a 1602 Agreement.

In addition to the proposed SATLAP permit actions, future improvements will be required in the vicinity that correspond to the extension of Trinity Parkway, and construction of the Mosher Slough Bridge, as well as development of the Atlas Tract (The Reserve) project. These future permit actions are described below:

Trinity Parkway. Trinity Parkway has been planned by the City of Stockton from the existing Bear Creek Bridge on the north to the future extension of Hammer Lane on the south. The segment from Bear Creek Bridge to Mosher Slough (Atlas Tract segment) has received prior local approval for

Phases 1 and 2 development from the City of Stockton. Except for the permits sought by the proposed SATLAP, no other permits are required. For the Section of Trinity Parkway between Mosher Slough and Hammer Lane (including a segment of Hammer Lane), approval for roadway development has not occurred pending City discretionary approval for the Shima Tract (The Sanctuary). Both segments of Trinity Parkway (Shima Tract segment) and Hammer Lane are included in the larger land use entitlements for the Shima Tract land development project. Permits required for Trinity Parkway, and Hammer Lane as components of the Shima Tract land development project may include, but are not limited, to the following:

- Section 404 - U.S. Army Corps of Engineers Nationwide Permit Authorization
- Section 401 - California Regional Water Quality Control Board Water Quality Certification
- Section 1602 - California Department of Fish and Game Streambed Alteration Agreement

Mosher Slough Bridge. The planned Mosher Slough Bridge will connect segments of Trinity Parkway north and south of Mosher Slough. Although approved at a “program” level by the City through the City of Stockton’s General Plan Circulation Element, and the Trinity Parkway Extension Project Phase 2, design level detail has not been generated. Subsequent to designing the bridge, the City will prepare more detailed environmental documentation for approval in accordance with the California Environmental Quality Act. Likewise, prior bridge approval, the U.S. Coast Guard will engage in environmental review as required by the National Environmental Policy Act. Permits for the Mosher Slough Bridge may include, but are not limited, to the following:

- Section 404 - U.S. Army Corps of Engineers Nationwide Permit Authorization
- Section 401 - California Regional Water Quality Control Board Water Quality Certification
- Section 1602 - California Department of Fish and Game Streambed Alteration Agreement
- U.S. Coast Guard Bridge Approval

Atlas Tract (The Preserve). The proposed project is located on the Atlas Tract. Within this tract, a land development project (The Preserve) is proposed, and City discretionary approval is pending. Alteration of the existing levee will occur along the eastern boundary of The Preserve, encroaching into the site plan for that project. Permits for The Preserve project are associated with a proposed outfall structure designed to discharge runoff from The Preserve development into Mosher Slough. Permits for The Preserve project may include, but are not limited, to the following:

- Section 404 - U.S. Army Corps of Engineers Nationwide Permit Authorization (application pending); jurisdiction delineation has been verified.
- Section 401 - California Regional Water Quality Control Board Water Quality Certification (previously issued June 5, 2007)
- Section 1602 - California Department of Fish and Game Streambed Alteration Agreement (previously issued November 21, 2006)

Atlas Tract Levee System/ Perimeter Levee System. The Perimeter Levee System (PLS) was constructed in the summer/fall of 2006. The PLS was constructed by the Reclamation District No. 2126 along the north, west and south sides of the Atlas Tract land connecting (on the east side) to the north and south ends of the existing Dry Land Levee. This system is in place to protect the future residents of the Atlas Tract Development during a 200-year flood event. The PLS is a non-project levee (i.e. not under federal jurisdiction). It should be noted that in constructing the PLS no encroachments occurred with the existing levee. All construction activities were outside the jurisdiction of the Federal Levee System. No permits were needed for this project.

S.5 DOCUMENT REQUIREMENTS

As described above, the existing levee is designated as a Federal “project levee.” The City of Stockton must obtain approval from the State Reclamation Board to modify (realign) the levee. The Reclamation Board requires a determination from the U.S. Army Corps of Engineers (Corps) allowing modification of the federal project as proposed. This EA is provided in compliance with NEPA and provides full disclosure of the environmental effects of the proposed project.

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2) U.S. Department of the Interior-Fish and Wildlife Service (August 18, 2006)
3) U.S. Department of Commerce-NOAA (September 29, 2006)
4) Office of Historic Preservation-Department of Parks and Recreation (June 25, 2008)
5) California Department of Fish and Game (December 17, 2007)
6) California Regional Water Quality Control Board-Central Valley (October 2, 2007)
7) SJCOG, Inc. (December 7, 2006)
8) State of California Native American Heritage Commission (June 29,2005)
9) Central California Information Center-California Historical Resources Information System (June 28, 2005)
10) LSA (correspondence with U.S. Army Corps of Engineers) July 31, 2007
11) LSA (correspondence to various Cultural Resource contacts)
    -July 8, 2005
    -June 22, 2005
    -June 22, 2005
    -July 8, 2005
    -June 22, 2005
    -June 22, 2005
    -May 25, 2005
12) Telephone Conversation Record with NOAA Fisheries (October 20, 2005)

B: SITE PHOTOS

FIGURES

TABLES

LIST OF TECHNICAL STUDIES

Air Quality Analysis

Cultural Resources Study

Noise Impact Analysis

These studies are contained in a compact disc (CD) located in a pocket at the rear of this document.

LIST OF ABBREVIATED TERMS

AAQS	Ambient Air Quality Standards
ACOE or Corps	Army Corps of Engineers
AQAP	Air Quality Attainment Plan
BMP	Best Management Practices
BSA	Biological Study Area
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CARB	California Air Resource Board
CCAA	California Clean Air Act
CCIC	Central California Information Center
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	cubic feet per second
City	City of Stockton
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CWA	Clean Water Act
EA	Environmental Assessment
EO	Executive Order
EPA	Environmental Protection Agency
ESU	Evolutionarily Significant Unit
FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FPRP	Flood Protection Restoration Project
ft	foot/feet
ft^2	square feet
GAMAQI	Guide for Assessing and Mitigating Air Quality Impacts
HAPs	hazardous air pollutants
HTL	high tidal line (3.9 feet)
I-5	Interstate 5
m	meter(s)
m^2	meters square
mg/m^3	milligrams per meter cubed
MLLW	mean lower low water (-0.4 feet)
MPO	Metropolitan Planning Organization

MSFCMA	Magnussen-Stevens Fishery Conservation and Management Act
MVE	Mid-Valley Engineering
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum (1929 Benchmark)
NMFS	National Marine Fisheries Service
NOA	Naturally Occurring Asbestos
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NWP	Nationwide Permit
O_3	ozone
OHWM	ordinary high water mark
P-C	Porter-Cologne Water Quality Control Act
PDT	project development team
PLS	Perimeter Levee System (Atlas Tract Levee System)
PM_{10}	particulates less than ten microns
$PM_{2.5}$	particulates less than 2.5 microns
ppm	parts per million
RWQCB	Regional Water Quality Control Board
SATLAP	Stockton Atlas Tract Levee Alteration Project
SATDLAP	Stockton Atlas Tract Dry Land Levee Alteration Project
SIP	State Implementation Plan
SJCOG	San Joaquin Council of Governments
SJMSCP	San Joaquin Multiple Species Conservation Plan
SJV	San Joaquin Valley
SJVAB	San Joaquin Valley Air Basin
SJAPCD	San Joaquin Valley Air Pollution Control District
SJVAPCD	San Joaquin Valley Unified Air Pollution Control District
SWPPP	Storm Water Pollution Prevention Plan
TAC	Technical Advisory Committee
TM	Tentative Map
g/m^3	milligrams per meter cubic
USCG	United States Coast Guard
USGS	United States Geological Service
USFWS	United States Fish and Wildlife Service
WRCC	Western Region Climate Center

1.0 PURPOSE AND NEED

The City of Stockton (City) proposes to re-align and reconstruct the existing levee as the proposed project action. The existing levee would be realigned approximately 300 feet to the west by placing engineering fill, constructing an approximately 4,000 linear foot levee and degrading the existing levee. Project construction would also involve the installation of utility lines and extension of existing Otto Drive, including ramps perpendicular to and across the new levee.

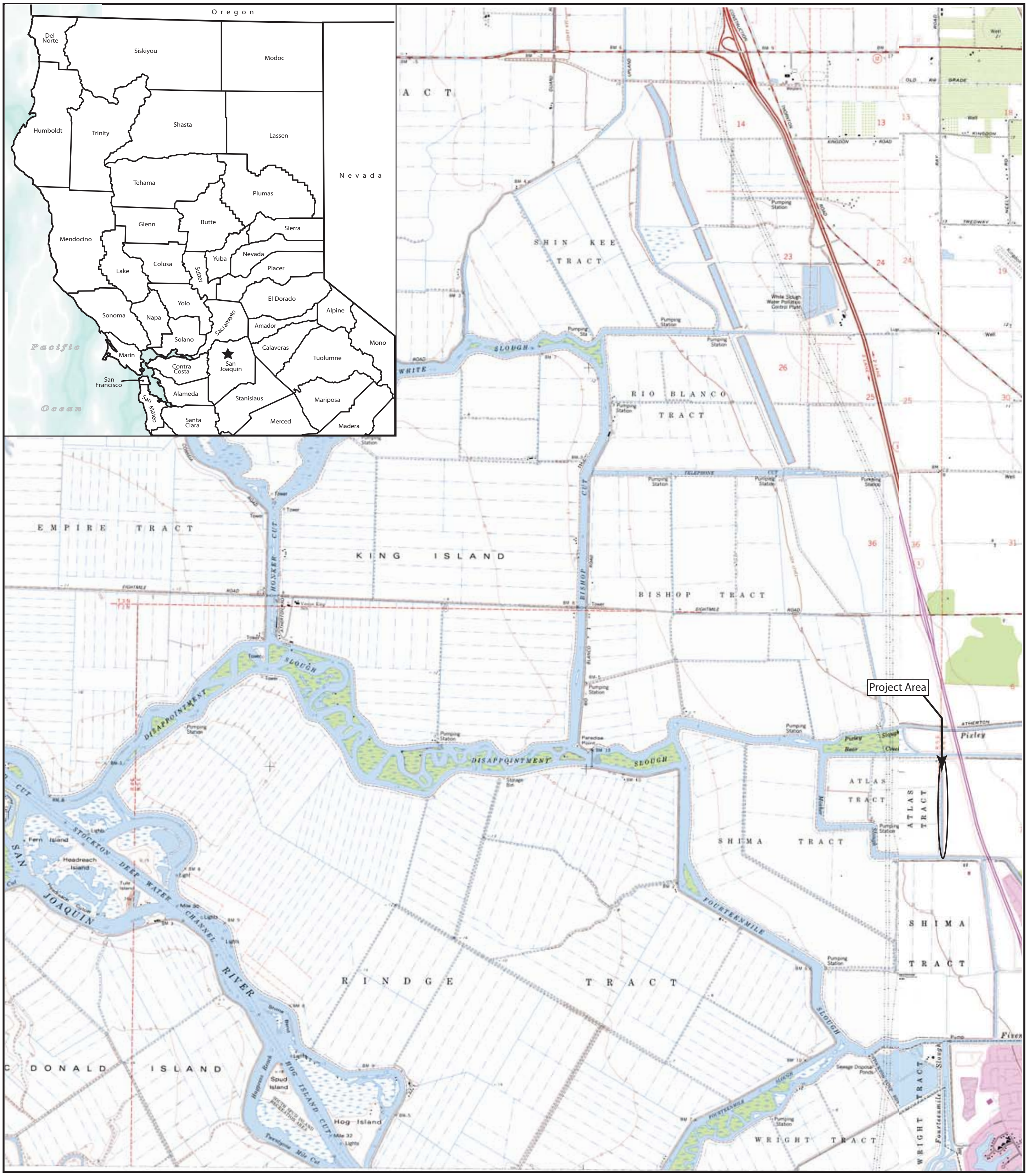
The existing levee in the project area is designated as a Federal "project" levee, those levees that were constructed as part of the Sacramento River Flood Control Project and are the responsibility of the Corps. The Reclamation Board has requested a determination from the Corps (Engineering Regulation, (ER) 1105-2-100, Appendix G, Paragraph G-16) allowing modification of the federal project as proposed by the City. Federal authorization consists of Division Commander's approval of significant modifications or alterations to a locally or federally maintained Corps project consistent with the requirements of Engineering Regulation, (ER) 1105-2-100, Appendix G, Paragraph G-16. The California Central Valley Flood Protection Board (CVFPB) is the non-federal project sponsor and Reclamation District No. 2126 is the local project sponsor for this project

1.1 PROJECT LOCATION

The proposed alignment is located at the north end of the City downstream (west) of the existing Bear Creek Bridge, as shown in Figures 1.1.1 and 1.1.2. The project is situated adjacent to and west of the Twin Creeks Subdivision and east of the proposed Atlas Tract (The Preserve) development project.

1.2 PROJECT PURPOSE

The purpose of the proposed project is to re-align and reconstruct the existing levee to allow construction of Trinity Parkway as a four-lane minor arterial roadway. Under current conditions, the existing levee occupies a portion of the Trinity Parkway right-of-way thus precluding the construction of a full four-lane roadway in this area. The City of Stockton has designated Trinity Parkway as a minor arterial roadway needed to provide a continuous circulation system in accordance with the Circulation Element of the City of Stockton 1990 General Plan, and in the recently approved 2035 General Plan Update. The proposed roadway will provide access to existing development areas north and south of Bear Creek and a connection from Eight Mile Road to Hammer Lane, via Otto Drive and Mariners Lane. The new roadway will be designed to accommodate new traffic from the Atlas Tract residential development, in addition to existing traffic from the Twin Creeks subdivision. In addition, it would be expected that the roadway would be utilized by other Stockton residents seeking alternative routes consistent with the City's long-range Circulation Element of the General Plan, thereby, reducing drive times/distances and potentially reducing air quality impacts.



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(Note: The project site is approximately 32,000 feet from the San Joaqiun River).

FIGURE 1.1.1

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FEET

SOURCE: USGS 7.5 Minute Topographical Maps (Terminous & Lodi South)

Stockton Atlas Tract Levee Alteration Project

Regional Vicinity

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FIGURE 1.1.2

Legend

Proposed Trinity Parkway
Perimeter Levee System
Existing SATLAP (Dry Land Levee)
Proposed SATLAP (Dry Land Levee)

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0 500 1000
FEET

Stockton Atlas Tract Dry Land Levee Alteration Project

Project Location

SOURCE: Terra Server USA, 2006
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In order to construct the four-lane minor arterial roadway and continue to provide the local area with equivalent flood protection, the existing levee would need to be realigned. The City proposes to move the levee approximately 300 feet to the west and upgrade the levee to current Corps flood protection standards. Realignment of the existing levee is necessary in order to retain and equivalent and adequate level of flood protection for surrounding development.

1.3 PROJECT NEED

Project need is established as a result of the City of Stockton's objective for implementing a component of the General Plan Circulation Element that includes construction of Trinity Parkway as a four lane minor arterial between Bear Creek and Mosher Slough in the City of Stockton, California. Under current conditions, the existing levee occupies a portion of the Trinity Parkway right-of-way thus precluding the construction of the full four lane minor arterial cross-section. In order to construction the proposed minor arterial and continue to provide equivalent flood protection, the existing levee must be realigned. By re-aligning the existing levee and allowing Trinity parkway to be constructed as a four-lane minor arterial roadway, local circulation and access will be significantly improved for developments in the vicinity and response times for emergency vehicles will be reduced. Trinity Parkway improvements have been included as a condition of approval in the Spanos Park West (TM 54-89 and TM 56-89), Twin Creeks Estates (TM 5-88), and Harbor Cove (TM 19-89) developments. Right-of-way for Trinity Parkway has been previously dedicated by Twin Creeks development. Realignment of the existing levee would allow for construction of Trinity Parkway consistent with the City's General Plan, while still providing an equivalent level of flood protection for this portion of the City.

1.4 BACKGROUND

The proposed Trinity Parkway roadway connection has been identified in the City's 1990 General Plan and the recently approved 2035 General Plan Update. The roadway was included as a condition of approval in the Spanos Park West development project (TM 54-89 and TM 56-89). Right-of-way for Trinity Parkway was previously dedicated by the Spanos Park West Project (north of Bear Creek) and the Twin Creeks development (south of Bear Creek).

In September 2003, the Stockton City Council adopted the Trinity Parkway Extension project (Phase 1) which included construction of a bridge over Bear Creek and the construction of Trinity Parkway to Otto Drive. The bridge portion of the project has already been completed. Although the environmental document (Mitigated Negative Declaration in accordance with the California Environmental Quality Act) evaluated the potential impacts from implementing the ultimate four lane minor arterial geometry (to establish noise mitigation requirements), project approval authorized construction of two vehicular travel lanes within the full four-lane right-of-way. Phase 2 of the Trinity Parkway project includes development of the remaining roadway improvements between the Bear Creek Bridge and Mosher Slough as needed to construct the full four-lane minor arterial. Ultimately, in a subsequent phase, the Trinity Parkway Extension will continue to the south, cross Mosher Slough and extend through the Shima Tract and connect to an extension of Hammer Lane. This segment will require subsequent environmental review.

Under current conditions, the existing levee occupies a portion of the right-of-way needed to construct the full four-lane Trinity Parkway minor arterial roadway. Construction of the four-lane roadway will require realignment of the existing dry land levee along the western edge of the roadway right-of-way. The existing levee is designated as a Federal "project" levee, those levees that were constructed as part of the Sacramento River Flood Control Project and are the responsibility of the Corps. It has been determined that this project be reviewed as a Post-Authorization Change Report (PAC) from the Corps (Engineering Regulation, (ER) 1105-2-100, Appendix G, Paragraph G-16) allowing modification of the federal project as proposed by the City. Federal authorization consists of Division Commanders approval of significant modifications or alterations to a locally or federally maintained Corps project consistent with the requirements of Engineering Regulation, (ER) 1105-2-100, Appendix G, Paragraph G-16.

In the summer/fall of 2006, the Perimeter Levee System (PLS) was improved to provide flood protection estimated to be in excess of the 200-year flood event for the Atlas Tract land. Based upon those improvements, the Federal Emergency Management Agency (FEMA) has recently issued a Letter of Map Revision demonstrating that the site now has flood protection exceeding the federal minimum. With the enhanced PLS in place, lands within the Atlas Tract will be protected from tidally influenced delta flood waters, as well as the upstream flooding potential from Bear Creek and Mosher Slough. The PLS improvements will also provide continued flood protection to existing residences in the Twin Creeks Estates subdivision in addition to the protection afforded by the existing levee. By re-aligning and reconstruction the levee, flood protection will be retained at a level equivalent to existing conditions.

1.5 DOCUMENTS INCORPORATED BY REFERENCE

Background information presented in this document is taken primarily from the *Trinity Parkway Extension Project Initial Study/Mitigated Negative Declaration* (City of Stockton, 2007). Other documents used in the preparation of this EA include the City of Stockton General Plan (1990), the Draft Traffic Impact Analysis for the Atlas Tract Preserve (Fehr and Peers 2006), the Air Quality Analysis (LSA 2006), and the Noise Analysis (LSA 2006a). Additionally, engineering designs, biological surveys and cultural resources studies prepared by MVE and LSA Associates, Inc. were used in preparing this document.

2.0 PROJECT ALTERNATIVES

2.1 BUILD ALTERNATIVES

In complying with NEPA requirements, a total of four alternatives were reviewed in this environmental document. These alternatives are described below.

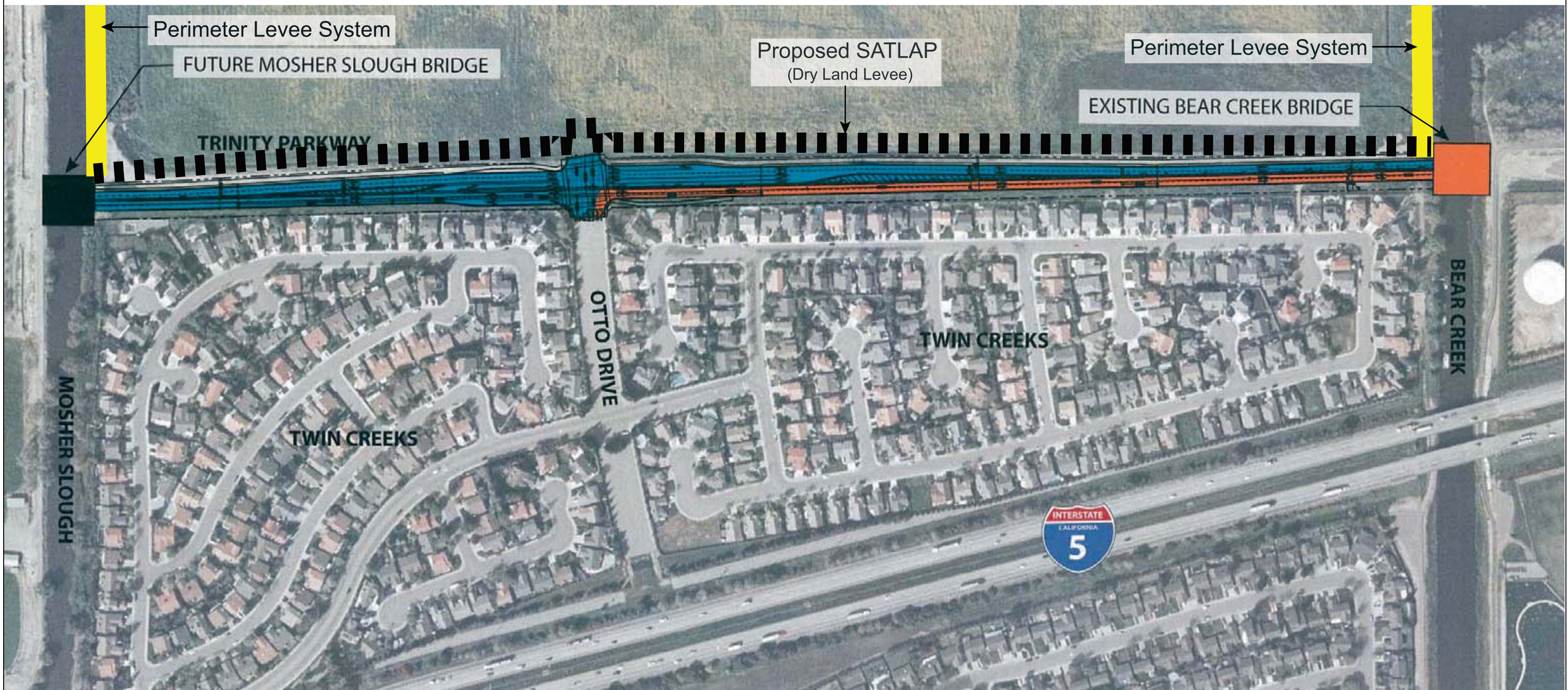
2.1.1 Alternative 1 (Proposed Project)

The proposed levee re-alignment and reconstruction project involves the alteration of the alignment of the existing levee that extends along the western edge of the Trinity Parkway right-of-way (in a north-south direction). Dry land levee realignment of up to 300 feet to the west, as measured from western toe of the existing levee to western toe of the realigned levee, is required to construct the complete four lane minor arterial cross section of Trinity Parkway from Bear Creek to Mosher Slough. A 4,000-foot levee would be constructed by placing engineered fill to the west of the existing levee. Then, the existing dry land levee would be degraded. Figures 2.1.1 and 2.1.2 illustrate the proposed project features and area connections. Figures 2.1.3 (a-c) illustrate the proposed levee realignment concept.

In the summer/fall of 2006 the PLS was constructed by the Reclamation District No. 2126 along the north, west, and south sides of the Atlas Tract land connecting (along the east side) to the north and south ends of the existing levee. The PLS is a non-project levee (i.e. not under federal jurisdiction). It should be noted that in constructing the PLS no encroachments occurred with the existing Project levee. All construction activities were outside the jurisdiction of the Federal Levee System.

With these improvements in place, the Atlas Tract lands are afforded flood protection estimated to be in excess of the 200-year flood event. Based upon those improvements, the Federal Emergency Management Agency (FEMA) has recently issued a Letter of Map Revision demonstrating that the Atlas Tract site now has flood protection exceeding the federal minimum. With the enhanced perimeter levee system in place, lands within the Atlas Tract will be protected from tidally influenced delta flood waters, as well as the upstream flooding potential from Bear Creek and Mosher Slough. The PLS improvements will also provide the existing residential uses in the Twin Creek Estates subdivision continued redundant flood protection in addition to the protection afforded by the levee. Included in the proposed roadway improvements will be utility pipes, water, sewer, streetlights, PG&E joint trench facilities, etc.

The proposed levee would be between 40 and 50 feet wide at the base and 20 feet wide at the top. The height would be a minimum 11.5 feet to be consistent with the height of the existing Atlas PLS elevation. The proposed levee would be integrated with the PLS at the same location as the existing levee improvements, actually connecting to the terminal end of the existing levee, just short of the PLS (Refer to Figures 2.1.3 (a-c). The slope of the levee would be 3:1 on both sides. Appendix B includes photographs for the proposed terminal connections.



LSA

FIGURE 2.1.1

Legend

- Trinity Parkway Phase 1 (Prevously Approved)
- Trinity Parkway Phase 2
- Proposed SATLAP (Dry Land Levee)
- Perimeter Levee System

N

0 250 500
FEET

SOURCE: Mid Valley Engineering, 2007
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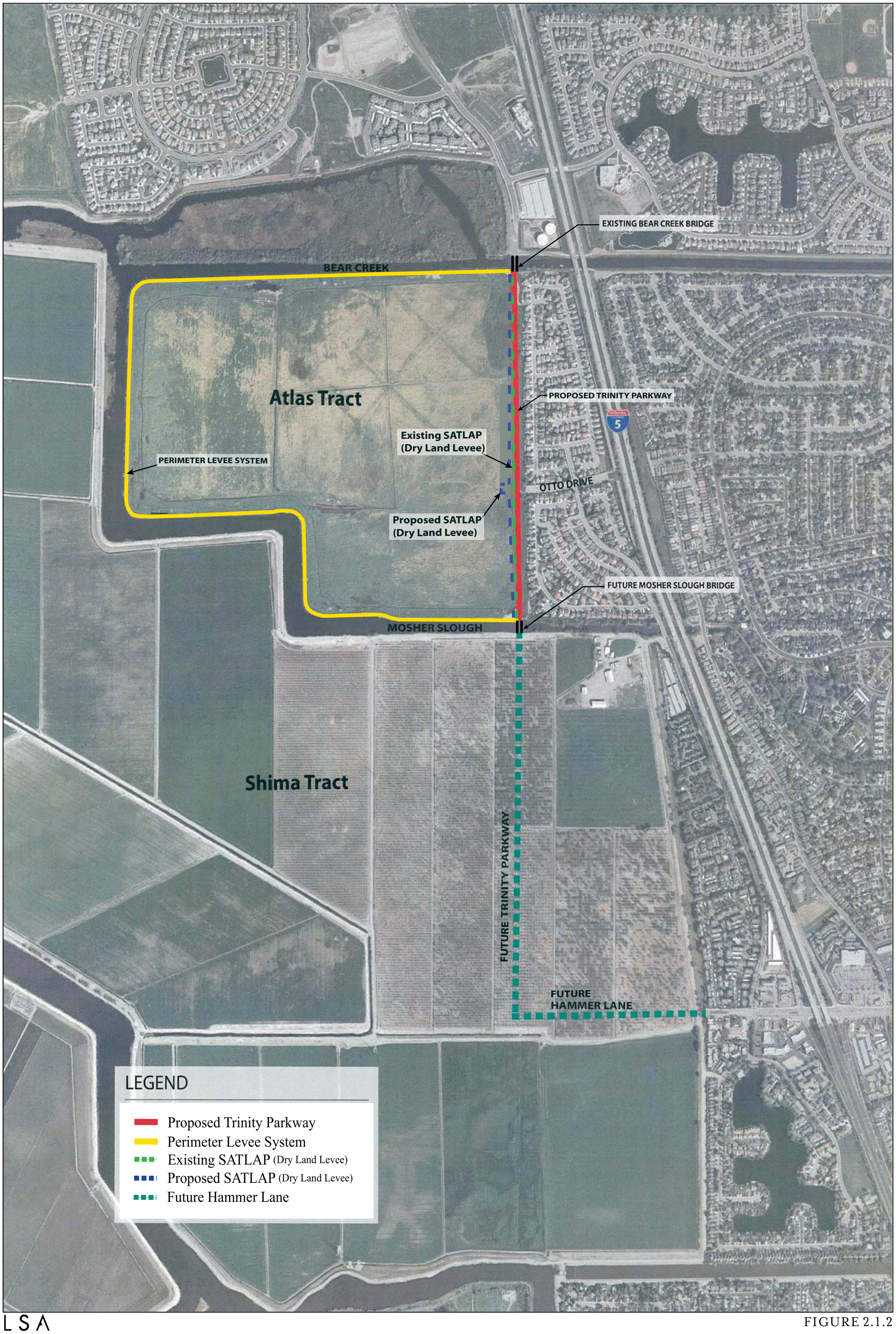
Stockton Atlas Tract Levee Alteration Project

Proposed SATLAP (Dry Land Levee)/Trinity Parkway Improvements



LSA

FIGURE 2.1.2

SOURCE: Mid Valley Engineering, 2007

Stockton Atlas Tract Levee Alteration Project

Existing and Proposed Improvements

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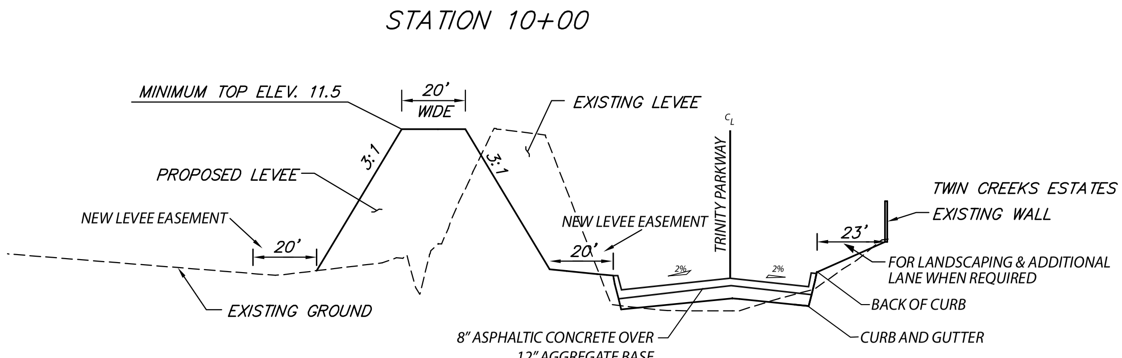
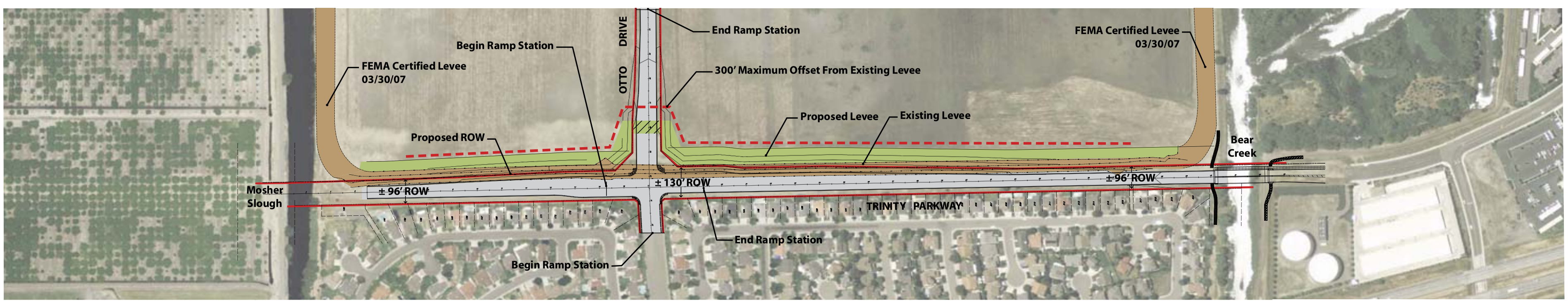


Typical Levee Cross Section

LEGEND

- Existing Levee
- Proposed Re-Aligned Levee
- Future Pavement Locations
- Future Pavement Atop Re-Aligned Levee
- Proposed Right-of-Way
- Offset From Existing Levee



L S A

FIGURE 2.1.3a

N

Stockton Atlas Tract Levee Alteration Project

Dryland Levee Relocation

SOURCE Mid-Valley Engineering 2007

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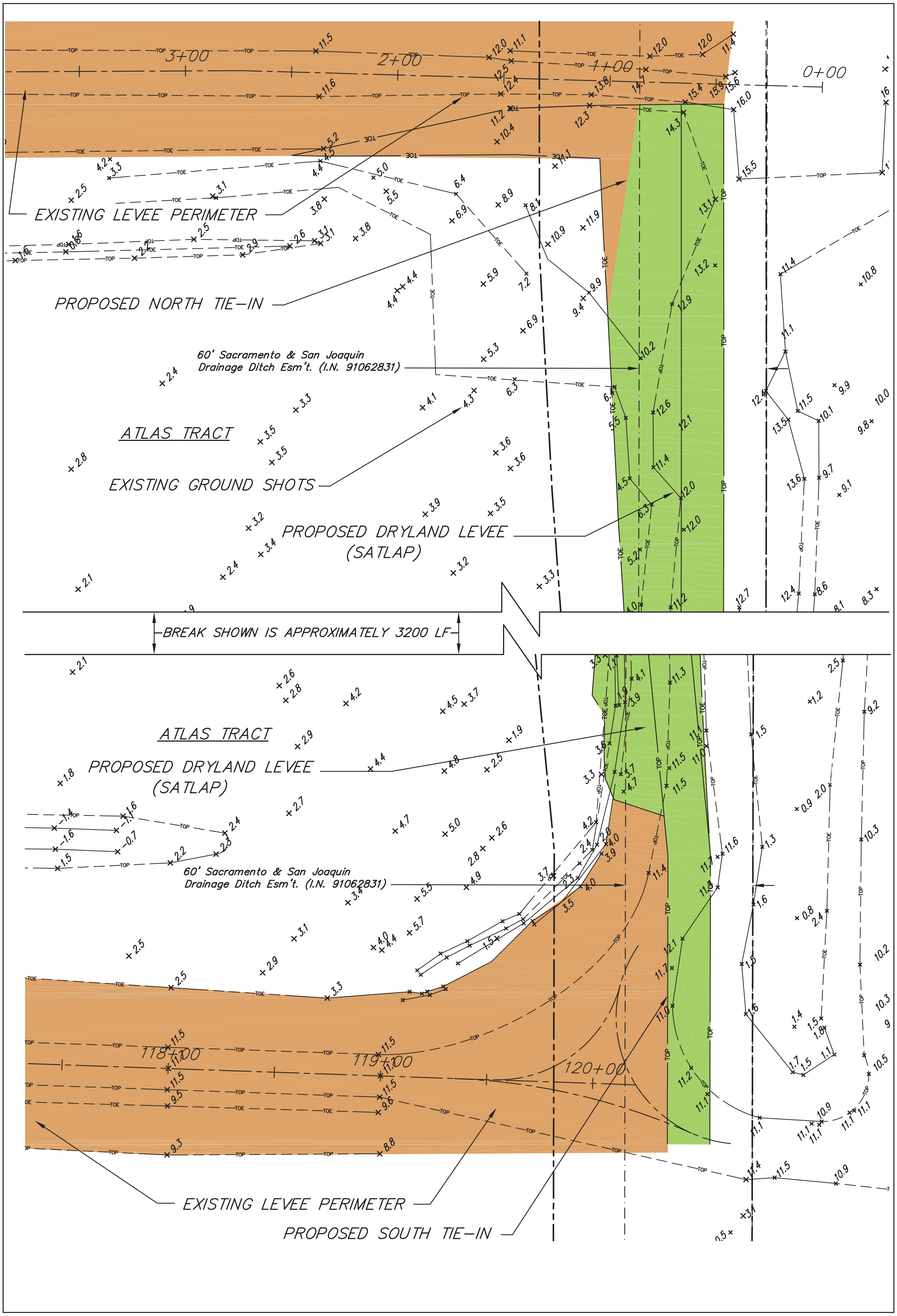

LSA

FIGURE 2.1.3B

Note: All elevations shown are existing elevations in NGVD 1929.

0 40 80 120
FEET

SOURCE: Mid Valley Engineering, 2008

Stockton Atlas Tract Levee Alteration Project

Tie-in to Existing Perimeter Levee System

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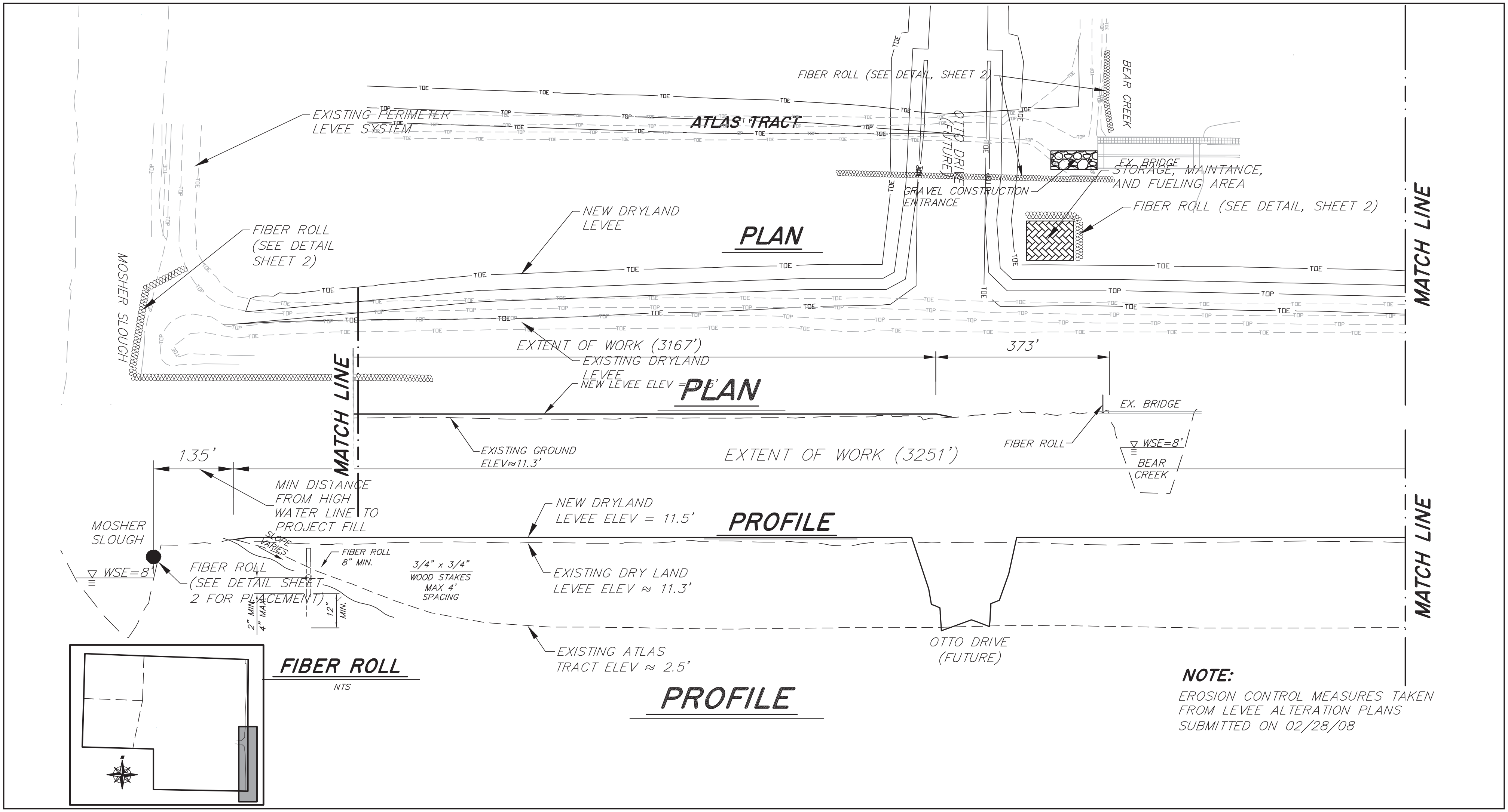

LSA

FIGURE 2.1.3c (1 of 2)

Stockton Atlas Tract Levee Alteration Project

Existing/Proposed SATLAP Comparison

SOURCE: MVE Engineering, 2008

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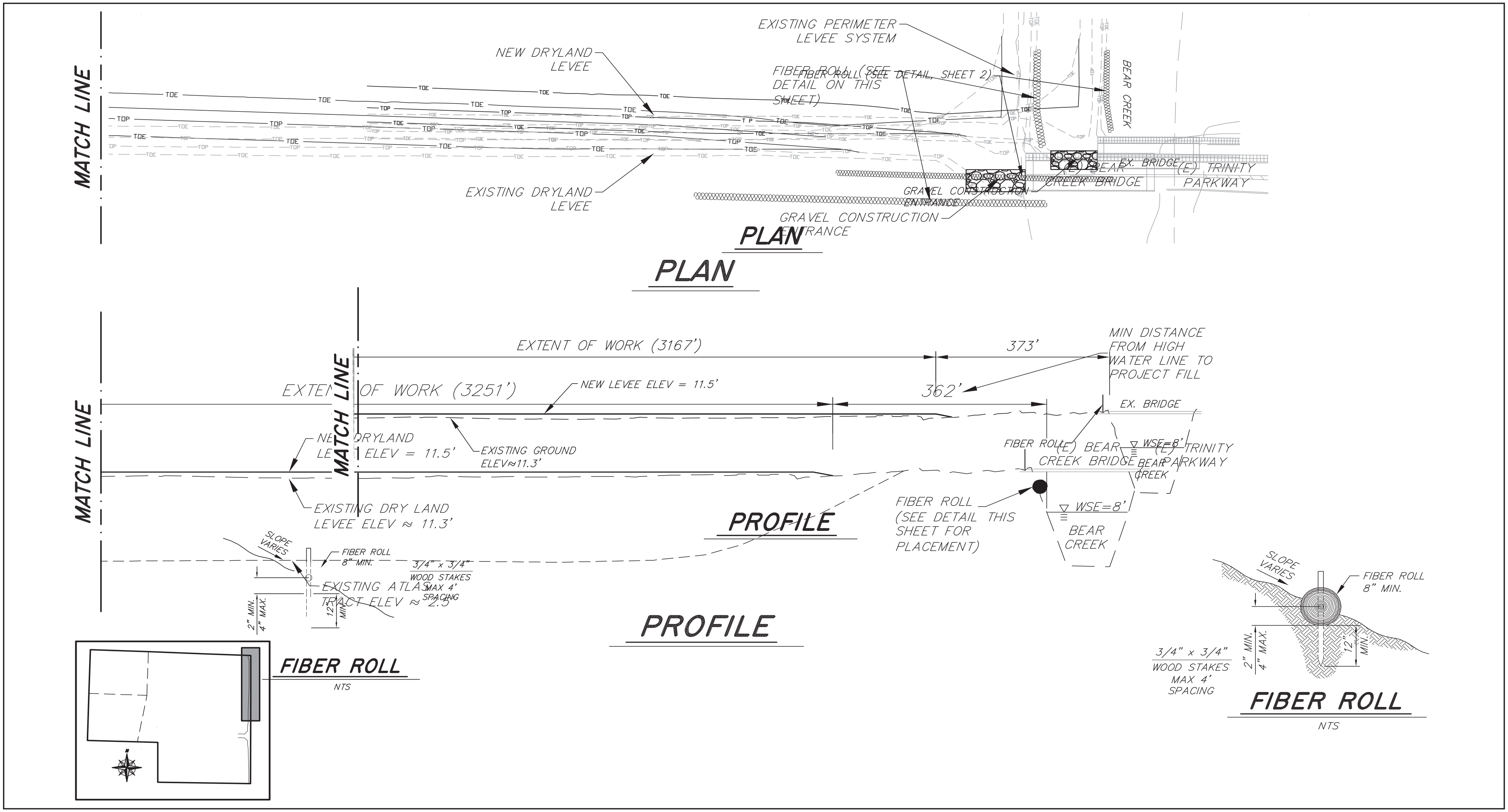

LSA

FIGURE 2.1.3c (2 of 2)

Stockton Atlas Tract Levee Alteration Project

Existing/Proposed SATLAP Comparison

SOURCE: MVE Engineering, 2008

P:\AGS0601\Graphics\Figure2.1.3c(2 of 2).pdf (10/20/08)

Approximately 95,000 cubic yards (cy) of fill would be needed for construction of this levee and the fill would be hauled in or borrowed from the adjacent Atlas Tract site. The borrow area within the Atlas Tract site will occur on lands that are in inactive agricultural production and exclude wetland habitat. The city has prepared a Draft Environmental Impact Report for the Atlas Tract (The Preserve) that assesses the impact from land development on these agricultural lands. From this assessment, it was concluded that there will be no impacts to biological or cultural resources. Accordingly, this finding is also inferred for the potential borrow effects. Once the new levee has been completed, earth from the existing levee would be transported to the Atlas Tract and used to fill in the borrow site; therefore, there would be no additional environmental effects at the borrow site.

At the Otto Drive intersection, Trinity Parkway will be elevated slightly in anticipation of the future entrance to the proposed Atlas Tract (The Preserve) development project. Also, this location (e.g., Otto Drive intersection) represents the farthest west that the levee will be realigned onto the Atlas Tract property as needed to accommodate the future entrance into the proposed Atlas Tract development. Trinity Parkway will also be elevated at the southern end of the project to meet the height elevation of the proposed levee system and future Mosher Slough-Trinity Parkway Bridge. Fill material that is required on Trinity Parkway will not be placed onto lands that are subject to HTL encroachment.

2.1.2 Alternative 2 (No Build Alternative)

With this alternative, the existing levee will remain in place and no alterations to the levee would be required. The future use of Trinity Parkway would be restricted to two-lanes between Bear Creek and Mosher Slough due to roadway right-of-way width constraints. In order to access the future Atlas Tract development, an extension of Otto Drive to the west would be constructed. The intersection of Trinity Parkway and Otto Drive would be elevated to the height of the existing dry land levee and ramps would be required from both Otto Drive and Trinity Parkway. Trinity Parkway would also be elevated at the southern end of the project to meet the height elevation of the proposed levee and future Mosher Slough-Trinity Parkway Bridge. Included in the proposed roadway improvements will be utility pipes, water, sewer, streetlights, PG&E joint trench facilities, etc.

Since this alternative would only allow for two travel lanes, this alternative would be inconsistent with the City of Stockton's 1990 and 2035 Circulation Element of the General Plan which designates Trinity Parkway as a four-lane roadway.

2.1.3 Alternative 3 (No Levee Alternative)

With this alternative, the existing levee would be removed allowing for construction of Trinity Parkway as a four-lane road within the existing roadway easement. The levee would be degraded and disposal material would be disposed of at a properly permitted landfill. At Otto Drive, the proposed roadway would include an extension of Otto Drive into the Atlas Tract. However, ramp construction would not be required due to the removal of the levee. The Trinity Parkway/Otto Drive intersection would be constructed at grade. Included in the proposed roadway improvements will be utility pipes, water, sewer, streetlights, PG&E joint trench facilities, etc.

As described in Alternative 1 above, in the summer/fall of 2006, the PLS was improved to provide flood protection estimated to be in excess of the 200-year flood event. With the enhanced levee system in place, lands within the Atlas Tract and the Twin Creek Estates are protected from tidally influenced delta flood waters, as well as the upstream flooding potential from Bear Creek and Mosher Slough. However, flood protection currently provided by the existing levee for these adjacent areas would be eliminated.

2.1.4 Alternative 4 (Levee Expansion Alternative)

With this alternative, the existing levee would be widened, such that the Trinity Parkway roadway can be constructed along the top of the levee. The roadway would be constructed as a four-lane roadway from Bear Creek to Mosher Slough. At Otto Drive, the proposed roadway would include an extension of Otto Drive into the Atlas Tract. Construction of ramps would be required in order for Otto Drive to intersect with the raised roadway. Vehicular travel on the entire roadway alignment would be restricted pending subsequent environmental review. Included in the proposed roadway improvements will be utility pipes, water, sewer, streetlights, PG&E joint trench facilities, etc.

The existing levee would be widened by placing engineered fill along the east side of the existing levee improvement. The widened levee would be approximately 130 feet wide at the base and 80 feet wide at the top. The height would be 11.5 feet to be consistent with the height of the existing levee. The slope of the levee would be 3:1 on both sides. Approximately 130,000 cy of fill would be needed for expansion of the levee and the fill would be hauled in from the adjacent Atlas Tract site.

3.0 ENVIRONMENTAL ANALYSIS

3.1 INTRODUCTION

This section describes the existing environmental resources in the areas that may be affected by the proposed project. This section also describes how these resources would be affected. This section is divided into two main areas: Section 3.2 discusses resources that were eliminated from further analysis. Sections 3.3 through 3.15 provide a detailed analysis of resources of concern. Resources of concern were identified based on the potential for project actions to have a substantial adverse affect on these resources.

3.2 ENVIRONMENTAL RESOURCES ELIMINATED FROM DETAILED ANALYSIS

Effects on several environmental resources were examined and found to be minor. Below is a discussion of these resources and the reasons they were eliminated from detailed discussion.

Agricultural Resources

The project development footprint area is not subject to farmland considerations. Previous land use determinations (e.g., Twin Creeks Estates development and Harbor Cove development) have removed the project footprint area from agricultural considerations. The remaining right-of-way designated for the proposed levee and Trinity Parkway improvements was converted from agricultural uses to future roadway uses with approval of those developments.

Hazards and Hazardous Materials

Proposed project use (i.e., levee) is not normally associated with activities that involve risks of hazardous wastes. In light of the retail-commercial and residential uses surrounding the project site, transport or use of significant quantities of hazardous materials on Trinity Parkway adjacent to the proposed levee is highly unlikely. Any uses that require hazardous wastes will be controlled and regulated by State law.

Land Use

The Twin Creek Estates subdivision is located in the project area (east) adjacent to the proposed SATLAP and Trinity Parkway roadway corridor. In light of the previously partially graded road right-of-way, construction of the roadway is an inevitable feature for Twin Creeks Estates residents. The SATLAP will facilitate construction of Trinity Parkway as a four-lane minor arterial. Since the roadway will border the residential neighborhood, but not extend through it, the roadway will not divide the neighborhood/community. The Trinity Parkway extension is consistent with minor arterial designation identified in the adopted 1990 and 2035 City of Stockton General Plan Circulation Element.

Population and Housing

With the re-alignment and reconstruction of the levee, construction of the four-lane minor arterial Trinity Parkway can occur as an integral component of the City's Circulation Element, which is ultimately needed to support development projects approved in the North Stockton area, including the Twin Creeks Estates development (existing), Spanos Park West (mostly built out; some portions under construction), Atlas Tract/Preserve (planned), and the Shima Tract/Sanctuary (planned). Re-alignment and reconstruction of the levee is needed to accommodate a full four-lane minor arterial roadway designation for Trinity Parkway to implement long-range circulation network plans and forecast traffic volumes that have triggered the need for the expanded circulation network. Furthermore, neither the SATLAP re-alignment nor the extension of Trinity Parkway will add new trips to the street network. Implementation of Trinity Parkway is expected to redistribute existing and future vehicular trips in the area.

Public Services

The proposed project does not require fire or police protection services. The City fire and police departments will benefit from the re-alignment of the levee and construction of Trinity Parkway due to improved vehicular safety and access. The project does not generate school-aged children and does not have an affect on school facilities.

Section 4(F) Evaluation

There are no publicly owned lands identified as a park, recreational area, or wildlife or waterfowl refuge, or any land identified as an historic (including archaeological) site, within the proposed levee realignment project area.

3.3 AIR QUALITY

This study is contained on the CD located in a pocket at the rear of this document and available by request. Information from the Air Quality Analysis was used in preparing this section.

Affected Environment

Regional Air Quality

The project site is located in the City of Stockton in San Joaquin County, which is part of the San Joaquin Valley Air Basin (SJVAB). This part of the SJVAB is currently under the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD). Therefore, the impact analysis contained in this section was prepared in accordance with the methodologies provided by the SJVAPCD in its Guide for Assessing and Mitigating Air Quality Impacts (Guide for Assessing and Mitigating Air Quality Impacts [GAMAQI] 2002) and the Department's Transportation Project Level Carbon Monoxide Protocol (December 1997).

Both the State and federal governments have established health based Ambient Air Quality Standards (AAQS) for six air pollutants. These pollutants are carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide, lead, and suspended particulate matter. Table 3.3.1 shows both federal and State standards for these criteria pollutants. Table 3.3.2 lists the sources, primary health effects, and status of meeting the standards of these six criteria air pollutants. These health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period of time. The State AAQS are more stringent than the federal AAQS.

Table 3.3.1: Ambient Air Quality Standards

		STATE	FEDERAL	
Pollutant	**Averaging Time**	**Concentration**	**Primary**	**Secondary**
Ozone (O_3)	1 Hour 8 Hour	0.09 ppm (180 µg/m^3) -	0.12 ppm (235 µg/m^3) 0.08 ppm	Same as Primary Std.
Nitrogen Dioxide (NO_2)	Annual Average	-	0.053 ppm (100 µg/m^3)	Same as Primary Std.
	1 Hour	0.25 ppm (470 µg/m^3)	-	
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	-
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	-
Suspended Particulate Matter (PM_{10})	Annual Geometric Mean	30 µg/m^3	-	-
	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary Std.
	Annual Arithmetic Mean	-	50 µg/m^3	-
Suspended Particulate Matter ($PM_{2.5}$)	24 Hour	-	65 µg/m^3	-
	Annual Arithmetic Mean	-	15 µg/m^3	-
Sulfur Dioxide (SO_2)	Annual Average	-	80 µg/m^3 (0.03 ppm)	-
	24 Hour	0.04 ppm (105 µg/m^3)	365 µg/m^3 (0.14 ppm)	-
	3 Hour	-	-	1,300 µg/m^3 (0.5 ppm)
	1 Hour	0.25 ppm (655 µg/m^3)	-	-
Lead	30 Day Average	1.5 µg/m^3	-	-
	Calendar Quarter	-	1.5 µg/m^3	Same as Primary Std.
Sulfates	24 Hour	25 µg/m^3	-	-
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	-	-
Vinyl Chloride (chloromethane)	24 Hour	0.010 ppm (26 µg/m^3)	-	-
Visibility Reducing Particles	8 Hour (10 am-6 pm PST)	*	-	-

Notes: ppm = parts per million; mg/m^3 = milligrams per cubic meter; µg/m^3 = micrograms per cubic meter
*In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. Measurement in accordance with CARB Method V.
Source: *CARB 2000.*

Table 3.3.2: Health Effects Summary of the Major Criteria Air Pollutants

Pollutants	Sources	Primary Effects
Ozone	Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
Nitrogen Dioxide (NO_2)	Motor vehicle exhaust. High temperature stationary combustion. Atmospheric reactions.	Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
Carbon Monoxide (CO)	Incomplete combustion of fuels and other carbon containing substances, such as motor exhaust. Natural Events, such as decomposition of organic mater.	Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
Suspended Particulate Mater (PM_{10} and $PM_{2.5}$)	Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions.	Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardiorespiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
Sulfur Dioxide (SO_2)	Combustion of sulfur containing fossil fuels. Smelting of sulfur bearing metal ores. Industrial processes.	Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead (Pb)	Contaminated soil.	Impairment of blood functions and nerve construction. Behavioral and hearing problems in children.

Source: *CARB 2001.*

Climate/Meteorology

Air pollution is directly related to a region's topographic features. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Range in the west (averaging 3,000 feet in elevation), and the Tehachapi Mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits, where the San Joaquin-Sacramento Delta empties into San Francisco Bay. The San Joaquin Valley (SJV), thus, could be considered a "bowl" open only to the north.

Although marine air generally flows into the basin from the San Joaquin River Delta, the region's topographic features restrict air movement through and out of the basin. These topographic features result in weak airflow, which becomes blocked vertically by high barometric pressure over the SJV. As a result, the SJVAB is susceptible to pollutant accumulation over time.

During the summer, wind usually originates at the north end of SJV, through Tehachapi Pass, into the Southeast Desert Air Basin. During the winter, wind occasionally originates in the south end of the SJV and flows in a north-northwesterly direction. Also during the winter months, the SJV experiences light, variable winds, less than 10 miles per hour (mph). Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high carbon monoxide (CO) and particulate matter (PM_{10}) concentrations.

Local Air Quality

The SJVAPCD, together with the California Air Resources Board (CARB), maintains ambient air quality monitoring stations in the San Joaquin County area. The attainment status in the San Joaquin County area of the SJVAB is shown in Table 3.3.3.

Table 3.3.3: Attainment Status in San Joaquin County Area

Pollutant	State	Federal
Ozone - 1 hour	Severe Non-attainment	Severe Non-attainment
Ozone - 8 hour	No State standard	Designation to be determined
PM_{10}	Non-attainment	Serious Non-attainment
$PM_{2.5}$	No State standard	Designation to be determined
CO	Attainment	Attainment/Unclassified
NO_2	Attainment	Attainment/Unclassified
All others	Attainment/Unclassified	Attainment/Unclassified

Source: *SJVAPCD 2003.*

Regulatory Settings

Federal Regulations/Standards

Pursuant to the federal Clean Air Act (FCAA) of 1970, the U.S. Environmental Protection Agency (EPA) established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

The NAAQS are two tiered: primary, to protect public health; and secondary, to prevent degradation of the environment (e.g., impairment of visibility, damage to vegetation and property, etc.). The six criteria pollutants are ozone (O_3), CO, particulates less than ten microns (PM_{10}), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). In July 1997, the EPA adopted new standards for eight hour ozone and $PM_{2.5}$.

Data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA.

The San Joaquin Valley is a single air quality nonattainment area containing six metropolitan planning organizations (MPOs) and two rural transportation-planning agencies (TPAs) that conduct transportation planning activities within the Valley. The EPA has designated the Merced County Association of Governments (MCAG) as the MPO responsible for ensuring the area's compliance with the CAA.

The EPA established new national air quality standards for ground level ozone and fine particulate matter in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the Clean Air Act, as applied in setting the new public health standards for ozone and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the U.S. Supreme Court upheld the way the government sets air quality standards under the Clean Air Act. The court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The justices also rejected arguments that the EPA took too much lawmaking power from Congress when it set tougher standards for ozone and soot in 1997. Nevertheless, the court threw out the EPA's policy for implementing new ozone rules, saying the agency ignored a section of the law that restricts its decision making authority. It ordered the agency to come up with a more "reasonable" interpretation of the law.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the eight-hour ground-level O_3 standard. The EPA issued the proposed rule implementing the eight-hour O_3 standard in April 2003. The EPA completed final eight-hour nonattainment status on April 15, 2004 and revoked the one-hour standard on June 15, 2005.

The EPA issues the final PM2.5 implementation rule in fall 2004. The EPA issued final designations on December 14, 2004.

State Regulations/Standards

The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are also listed in Table 3.3.1.

Originally, there were no attainment deadlines for the CAAQS. However, the California Clean Air Act (CCAA) of 1988 provided a time frame and a planning structure to promote their attainment. The CCAA required nonattainment areas in the State to prepare attainment plans and proposed to classify each such area on the basis of the submitted plan, as follows: moderate, if CAAQS attainment could not occur before December 31, 1994; serious, if CAAQS attainment could not occur before December 31, 1997; and severe, if CAAQS attainment could not be conclusively demonstrated at all.

The attainment plans are required to achieve a minimum five percent annual reduction in the emissions of nonattainment pollutants unless all feasible measures have been implemented. The San Joaquin County area of the SJVAB is currently classified as a nonattainment area for two criteria pollutants: O_3 and PM_{10}.

Regional Air Quality Planning Framework

The 1976 Lewis Air Quality Management Act established the SJVAPCD and other air districts throughout the State. The FCAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

The CARB coordinates and oversees both State and federal air pollution control programs in California. CARB oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for federal EPA approval. CARB maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected at these stations are used by CARB to classify air basins as “attainment” or “nonattainment” with respect to each pollutant and to monitor progress in attaining air quality standards. CARB has divided the State into 15 air basins. Significant authority for air quality control within them has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

The CCAA provides the SJVAPCD with the authority to manage transportation activities at indirect sources and regulate stationary source emissions. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. An example of this would be the motor vehicles at an intersection, a mall, and on highways. As a State agency, CARB regulates motor vehicles and fuels for their emissions.

Regional Air Quality Management Plan

The SJVAPCD has adopted several attainment plans to achieve State and federal air quality standards to comply with CCAA and FCAA Amendment requirements. The SJVAPCD must continuously monitor its progress in implementing attainment plans and must periodically report to the CARB and the EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements in accordance with schedules mandated by the CCAA and FCAA Amendments.

The CCAA requires districts to adopt air quality attainment plans and to review and revise their plans to address deficiencies in interim measures of progress once every three years. The SJVAPCD’s Air Quality Attainment Plan (AQAP) was adopted in 1991 and was most recently updated in 2001.

To meet FCAA Amendment and CCAA requirements, the SJVAPCD has submitted numerous plans for attaining O_3, PM_{10} and CO standards. The ozone plan projected attainment of the federal ozone standard by 1999, but did not achieve its goal. The EPA has officially redesignated the SJVAB to severe nonattainment for ozone effective December 10, 2001. The SJVAPCD’s Governing Board adopted the 2007 Ozone Plan on April 30, 2007. The plan lays out strategies for attainment of the federal 8-hour ozone standard. The 2007 Ozone Plan is in review at the EPA. The carbon monoxide plan demonstrates that CO attainment has already been reached. The PM_{10} attainment plan sets forth the approach the SJVAPCD will use to attain the NAAQS for PM_{10}. The SJVAPCD's 2007 PM_{10} Maintenance Plan and Request for Redesignation were adopted by the SJVAPCD's Governing Board on September 20, 2007. The Air Resources Board will consider the plan in October.

Permanent Impacts

The methodology and thresholds of significance used in determining project-related impacts is presented in the Air Quality Analysis.

Long-Term Regional Air Quality Impacts

All Build Alternatives

Long-term air emission impacts are those associated with stationary sources and mobile sources related to any change in permanent usage of the project site. Because of the characteristics of the proposed alternatives, there are no project related stationary sources of emissions associated with the usage of electricity and natural gas. In addition, the proposed project would not result in new vehicular traffic trips. Therefore, there would be no new mobile source emissions from the vehicle use associated with the proposed build alternatives.

The proposed build alternatives would allow the ultimate construction of Trinity Parkway to accommodate circulation capacity requirement in the project area and would not result in new vehicular traffic trips. Therefore, the proposed build alternatives would not have significant regional air quality impacts. No mitigation measures are required.

Long-Term Microscale Projections

Build Alternatives 1, 3, and 4

The proposed levee re-alignment and reconstruction does not involve long-term generation of air pollutants or emissions. However, the project will have an indirect effect on the generation of pollutants due to the relationship with Trinity Parkway improvements and the traffic generated from implementing the adjacent proposed Atlas Tract (The Preserve) development project. Since Trinity Parkway improvements are dependent of the proposed project, an air quality analysis was provided as a result of the indirect effects from implementing Trinity Parkway. This analysis is provided below.

Carbon Monoxide (CO) Hot Spots. No significant increase in CO emissions or concentrations is expected as a result of the Trinity Parkway extension. CO hot spot analyses were conducted for the years 2005 and 2025. These existing (2005) and cumulative (2025) conditions show that the project area would not have CO hot spots, with or without the construction of Trinity Parkway. The proposed Trinity Parkway extension (and therefore the SATLAP) would not have an adverse impact on local air quality for CO, and no mitigation measures would be required.

The primary mobile source pollutant of local concern is CO. Carbon monoxide is a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project's effect on local CO levels.

The highest CO concentrations would occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Modeling of the CO hot spot analysis was based on traffic volumes generated by the project traffic study (Fehr & Peers 2006), which identified the peak traffic levels generated in the project area for the existing and cumulative conditions.

The impact on local CO levels was assessed with the CARB-approved CALINE4 air quality model, which allows microscale CO concentrations to be estimated along roadway corridors or near intersections. This model is designed to identify localized concentrations of CO, often termed "hot spots." A discussion of input to the CALINE4 model is presented in the Air Quality Analysis.

Table 3.3.5 compares the CO concentrations from the existing 2005 traffic and all approved operational projects in the vicinity of this project with CO concentrations from additional traffic related to the Atlas Tract project (the nearest main user of this proposed project). Table 3.3.6 compares CO concentrations without and with the project in 2025. Table 3.3.7 compares CO concentrations without and with the Trintity Parkway extension in 2035. Table 3.3.5 shows that in 2005, the proposed Trinity Parkway extension would contribute, at most, a 2.5 ppm increase to the one-hour and a 1.8 ppm increase to the eight-hour CO concentrations at these intersections.

As shown in Tables 3.3.6 and 3.3.7, the future-year scenarios show less of an impact with none of the seven intersections analyzed exceeding either the one-hour or the eight-hour CO concentration federal and State standards. The proposed Trinity Parkway extension (and therefore the SATLAP) will not have a significant impact on local air quality for CO, and no mitigation measures would be required.

Build Alternative 2

CO Hot Spots. Implementation of Alternative 2 would preserve the existing levee in place resulting in construction of a two-lane Trinity Parkway roadway rather than the proposed four-lane roadway identified in the City of Stockton's Circulation Element. A two-lane roadway would be insufficient to accommodate long-term area growth and could result in significant traffic congestion along area streets. Increased traffic congestion could result in impacts to local air quality for CO. As shown in Tables 3.3.5-3.3.7, the No Build project condition will not cause an exceedance of air quality standards.

Table 3.3.5: Existing with Approved Project No Build/Build Alternatives CO Concentrations[1,2]

Intersection	Receptor Distance to Road Centerline (m)	Build Related Increase 1-Hr/8-Hr (ppm)	No Build/Build Project 1-Hr CO Concentrations (ppm)	No Build/Build Project 8-Hr CO Concentrations (ppm)	Exceeds Standards?[3] (1-Hr/8-Hr)
Trinity Parkway and McAuliffe Road	14/14	0.3/0.2	8.9/9.2	5.8/6.0	No/No
	14/14	0.2/0.2	8.5/8.7	5.5/5.7	No/No
	14/14	0.4/0.3	8.0/8.4	5.2/5.5	No/No
	10/10	0.3/0.2	7.9/8.2	5.1/5.3	No/No
Trinity Parkway/Otto Drive	17/17	1.6/1.2	6.8/8.4	43./5.5	No/No
	17/17	1.1/0.8	6.8/7.9	4.3/5.1	No/No
	17/17	1.4/0.9	6.4/7.8	4.1/5.0	No/No
	14/14	1.4/1.0	6.3/7.7	4.0/5.0	No/No
Mariners Drive/Otto Drive	12/12	2.5/1.8	8.2/10.7	5.3/7.1	No/No
	12/12	1.9/1.3	8.0/9.9	5.2/6.5	No/No
	8/8	1.8/1.3	7.5/9.3	4.8/6.1	No/No
	7/7	1.8/1.2	7.3/9.1	4.7/5.9	No/No
Mariners Drive/Whitewater Lane	12/12	1.7/1.2	7.2/8.9	4.6/5.8	No/No
	12/12	1.5/1.1	7.1/8.6	4.5/5.6	No/No
	12/12	1.6/1.1	7.0/8.6	4.5/5.6	No/No
	8/8	1.6/1.2	6.8/8.4	4.3/5.5	No/No
Mariners Drive/Blackswain Place	12/12	1.7/1.2	7.2/8.9	4.6/5.8	No/No
	8/8	1.5/1.1	7.1/8.6	4.5/5.6	No/No
	8/8	1.5/1.1	7.1/8.6	4.5/5.6	No/No
	8/8	1.6/1.1	6.7/8.3	4.3/5.4	No/No
Mariners Drive/Sturgeon Road	12/12	1.7/1.2	7.3/9.0	4.7/5.9	No/No
	12/12	1.5/1.1	7.2/8.7	4.6/5.7	No/No
	12/12	1.5/1.1	7.1/8.6	4.5/5.6	No/No
	8/8	1.5/1.1	6.8/8.3	4.3/5.4	No/No
Mariners Drive/Hammer Lane	20/20	1.7/1.2	9.7/11.4	6.4/7.6	No/No
	14/14	1.7/1.2	9.1/10.8	5.9/7.1	No/No
	14/14	1.2/0.8	8.9/10.1	5.8/6.6	No/No
	8/8	1.3/0.9	8.7/10.0	5.7/6.6	No/No

Source: *LSA Associates, Inc. 2006.*

1 Includes ambient one-hour concentration of 4.9 ppm and ambient eight-hour concentration of 3.0 ppm; measured at the Hazelton-Rd, Stockton, CA AQ Station (San Joaquin County).
2 Assumes traffic is utilizing Trinity Parkway between McAuliffe Way and Otto Drive and that the Segment/Bear Creek Bridge has been constructed.
3 The State on-hour standard is 20 ppm, and the eight-hour standard is 9 ppm.

Table 3.3.6: 2025 No Build/Build Alternatives CO Concentrations[4]

Intersection	Receptor Distance to Road Centerline (m)	Build Related Increase 1-Hr/8-Hr (ppm)	No Build/Build Project 1-Hr CO Concentration (ppm)	No Build/Build Project 8-Hr CO Concentration (1-Hr/8-Hr)	Exceeds Standards?[5] (1-Hr/8-Hr)
Trinity Parkway/ McAuliffe Rd	14/14	0.0/0.0	5.7/5.7	3.6/3.6	No/No
	14/12	0.1/0.1	5.5/5.6	3.4/3.5	No/No
	12/10	0.1/0.1	5.5/5.6	3.4/3.5	No/No
	10/10	0.1/0.1	5.5/5.6	3.4/3.5	No/No
Trinity Parkway/ Otto Drive	17/17	0.2/0.1	5.4/5.6	3.4/3.5	No/No
	17/17	0.3/0.2	5.3/5.6	3.3/3.5	No/No
	17/17	0.1/0.1	5.3/5.4	3.3/3.4	No/No
	14/14	0.1/0.1	5.3/5.4	3.3/3.4	No/No
Mariners Drive/ Otto Drive	17/17	0.2/0.1	5.3/5.5	3.3/3.4	No/No
	16/16	0.1/0.1	5.3/5.4	3.3/3.4	No/No
	14/14	0.1/0.1	5.3/5.4	3.3/3.4	No/No
	14/14	0.1/0.1	5.3/5.4	3.3/3.4	No/No
Mariners Drive/ Whitewater Lane	12/12	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	12/12	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	8/8	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	8/8	0.0/0.0	5.1/5.1	3.1/3.1	No/No
Mariners Drive/ Blackswain Place	12/12	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	12/12	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	8/8	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	8/8	0.0/0.0	5.1/5.1	3.1/3.1	No/No
Mariners Drive/ Sturgeon Road	12/12	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	12/12	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	8/8	0.0/0.0	5.1/5.1	3.1/3.1	No/No
	8/8	0.0/0.0	5.1/5.1	3.1/3.1	No/No
Mariners Drive/ Hammer Lane	21/21	0.1/0.0	5.4/5.5	3.4/3.4	No/No
	20/21	0.1/0.1	5.3/5.4	3.3/3.4	No/No
	14/20	0.1/0.1	5.3/5.4	3.3/3.4	No/No
	14/14	0.0/0.0	5.3/5.3	3.3/3.3	No/No

Source: *LSA Associates, Inc. 2003a.*

[4] Includes ambient one-hour concentration of 4.9 ppm and ambient eight-hour concentration of 3.0 ppm; measured at the Hazeltone-Rd., Stockton, CA AQ Station (San Joaquin County).
[5] The State one-hour standard is 20 ppm, and the eight-hour standard is 9 ppm.

Table 3.3.7: 2035 No Build/Build Alternatives CO Concentrations[6]

Intersection	Receptor Distance to Road Centerline (m)	Build Related Increase 1-Hr/8-Hr (ppm)	No Build/Build Project 1-Hr CO Concentration (ppm)	No Build/Build Project 8-Hr CO Concentration (1-Hr/8-Hr)	Exceeds Standards?[7] (1-Hr/8-Hr)
Trinity Parkway/ McAuliffe Rd	14/14	0.0/0.0	5.4/5.4	3.4/3.4	No/No
	14/12	0.1/0.1	5.3/5.4	3.3/3.4	No/No
	12/10	0.1/0.1	5.3/5.4	3.3/3.4	No/No
	10/10	0.1/0.1	5.3/5.4	3.3/3.4	No/No
Trinity Parkway/ Otto Drive	21/21	0.1/0.1	5.5/5.6	3.4/3.5	No/No
	21/21	0.2/0.1	5.4/5.6	3.3/3.5	No/No
	19/19	0.1/0.0	5.4/5.6	3.3/3.4	No/No
	17/15	0.1/0.0	5.4/5.5	3.3/3.4	No/No
Mariners Drive/ Otto Drive	14/16	0.1/0.1	5.5/5.6	3.3/3.4	No/No
	14/14	0.1/0.0	5.4/5.5	3.3/3.4	No/No
	14/14	0.1/0.0	5.4/5.5	3.3/3.4	No/No
	14/14	0.0/0.0	5.4/5.4	3.3/3.4	No/No
Mariners Drive/ Whitewater Lane	12/12	0.0/0.0	5.0/5.0	3.1/3.1	No/No
	12/12	0.0/0.0	5.0/5.0	3.1/3.1	No/No
	8/8	0.0/0.0	5.0/5.0	3.1/3.1	No/No
	8/8	0.0/0.0	5.0/5.0	3.1/3.1	No/No
Mariners Drive/ Blackswain Place	12/12	0.0/0.0	5.0/5.0	3.1/3.1	No/No
	12/12	0.0/0.0	5.0/5.0	3.1/3.1	No/No
	8/8	0.0/0.0	5.0/5.0	3.1/3.1	No/No
	8/8	0.0/0.0	5.0/5.0	3.1/3.1	No/No
Mariners Drive/ Sturgeon Road	12/12	0.1/0.0	5.0/5.1	3.1/3.1	No/No
	12/12	0.1/0.0	5.0/5.1	3.1/3.1	No/No
	8/8	0.0/0.0	5.0/5.0	3.1/3.1	No/No
	8/8	0.0/0.0	5.0/5.0	3.1/3.1	No/No
Mariners Drive/ Hammer Lane	24/24	0.0/0.0	5.6/5.6	3.5/3.5	No/No
	24/24	0.0/0.0	5.5/5.5	3.4/3.4	No/No
	22/22	0.0/0.0	5.5/5.5	3.4/3.4	No/No
	16/16	0.0/0.0	5.4/5.4	3.4/3.4	No/No

All Build Alternatives

Diesel Toxics Analysis. It is not expected that implementation of the project will cause a significant increase in toxic air contaminants (TAC). For the immediate future, because this project only extends a roadway but does not connect to any other roadway, little to no traffic will occur on the new roadway. No significant TAC emissions impacts will occur and no mitigation measures are required.

Accidental Release/Acutely Hazardous Air Emissions. The proposed project is not expected to result in any accidental release of acutely hazardous air emissions. No mitigation measures are required.

[6] Includes ambient one-hour concentration of 4.9 ppm and ambient eight-hour concentration of 3.0 ppm; measured at the Hazeltone-Rd., Stockton, CA AQ Station (San Joaquin County).
[7] The State one-hour standard is 20 ppm, and the eight-hour standard is 9 ppm.

Temporary Impacts

All Build Alternatives

Air pollutant emissions associated with the project would occur over the short-term from construction activities, such as fugitive dust from site preparation and grading and emissions from equipment exhaust.

The SJVAPCD's approach to analysis of construction PM_{10} impacts is to require implementation of effective and comprehensive control measures rather than to require detailed quantification of emissions. Compliance with Regulation VIII for all sites and implementation of all other control measures indicated in Tables 3.3.8 and 3.3.9 (as appropriate, depending on the size and location of the project site) will constitute sufficient mitigation to reduce PM_{10} impacts to a level considered less than significant.

Naturally Occurring Asbestos. The project is located in San Joaquin County, which is not among the counties listed as containing Serpentine and Ultramafic Rock (Governor's Office of Planning and Research, 2000). Therefore, the impact from Naturally Occurring Asbestos (NOA) during project construction would be minimal to none.

Odors. Some objectionable odors may emanate from the operation of diesel powered construction equipment during the construction of the bridge. These odors, however, would be limited to the short-term construction period of the project. No significant odor impacts would occur. No mitigation measures are required.

Alternative 4

Implementation of Alternative 4 would require the import of a significant amount of fill in order to raise the Trinity Parkway roadway to the height of the existing levee. Import of fill would require a significant increase in truck trips to and from the project site during construction activities. The increase in truck trips could result in a temporary increase in criteria pollutants in the project area due to increase emissions from equipment exhaust needed to impact fill.

Mitigation Measures

The project will be required to comply with regional rules that assist in reducing short-term air pollutant emissions. SJVAPCD Regulation VIII requires that fugitive dust be controlled with best available control measures and requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site.

Applicable dust suppression techniques from Regulation VIII are summarized in Tables 3.3.8 and 3.3.9.

Because the project is located in an ozone nonattainment area, measures listed in Table 3.3.10 should be implemented, where feasible, to reduce air pollutants generated during the project construction phase.

Table 3.3.8: Regulation VIII Control Measures for Construction Emissions of PM_{10}

Regulation VIII Control Measures. - The following controls are required to be implemented at all construction sites. (Includes changes effective May 15, 2002)
• All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover. • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. • With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition. • When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained. • All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.) • Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant. • Within urban areas, trackouts shall be immediately removed when they extend 50 or more feet from the site, and at the end of each workday. • Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.

Source: *SJVAPCD 2002.*

Table 3.3.9: Enhanced and Additional Control Measures for Construction Emissions of PM_{10}

Enhanced Control Measures. - The following measures should be implemented at construction sites when required to mitigate significant PM10 impacts (note, these measures are to be implemented in addition to Regulation VIII requirements):
• Limit traffic speeds on unpaved roads to 15 mph; and • Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
Additional Control Measures. - The following control measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or which for other reason warrant additional emissions reductions:
• Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site; • Install wind breaks at windward side(s) of construction areas; • Suspend excavation and grading activity when winds exceed 20 mph; and* • Limit area subject to excavation, grading, and other construction activity at any one time. *Regardless of windspeed, an owner/operator must comply with Regulation VIII's 20 percent opacity limitation.

Source: *SJVAPCD 2002.*

Table 3.3.10: Construction Equipment Mitigation Measures

Emission Source	Mitigation Measures
Heavy duty equipment (scrapers, graders, trenchers, earth movers, etc.)	• Use of alternative fueled equipment or catalyst equipped diesel construction equipment. • Minimize idling time (e.g., 10 minutes maximum) • Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use • Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set) • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways • Implement activity management (e.g., rescheduling activities to reduce short-term impacts)

Source: *SJVAPCD 2002.*

Findings

With the implementation of the measures outlined above, emissions associated with project construction and long-term operation of the SATLAP will be minimized and the project-related impacts will be mitigated.

3.4 NOISE

This study is contained on the CD located in a pocket at the rear of this document and available by request. Information in the Noise Impact Analysis is summarized in this section. For a discussion of fundamental traffic noise concepts, regulations, standards and policies, and study methods and procedures, please see the Noise Impact Analysis.

Affected Environment

Sensitive receptors in the project area include residences, schools, hospitals and similar uses that are sensitive to noise. Existing land uses within the project area include residential land uses. These residences are located east of the project site.

The primary existing noise sources in the project area are transportation facilities. Traffic on Eight Mile Road, Hammer Lane, Trinity Parkway, Mariners Drive, and other local streets is a steady source of ambient noise in the project vicinity. The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The existing average daily traffic (ADT) volumes in the area were taken from the unpublished *Atlas Tract EIR Traffic Impact Analysis* (Fehr & Peers 2006). This traffic analysis was used to evaluate traffic noise impacts along the Trinity Parkway extension because the traffic analysis provides a worst-case traffic condition with implementation of the Atlas Tract/The Preserve project. The resultant noise levels are weighted and summed to determine the CNEL values. Table 3.4.1 provides the existing (2005) plus approved project traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent worst-case scenarios, which assume that no shielding is provided between traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in the Noise Study.

As shown in Table 3.4.1, traffic noise along Trinity Parkway is generally moderate to moderately low. Along Trinity Parkway south of McAuliffe Way, the 65 and 60 dBA CNEL impact zones extend 77 and 160 feet from the centerline respectively.

Table 3.4.1: Existing (2005) Plus Approved Projects Traffic Noise Levels[8]

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Eight Mile Road					
Eight Mile Road west of Regatta Drive	6,030	< 50[9]	58	117	63.2
Eight Mile Road east of Regatta Drive	15,080	< 50	100	212	67.2
Eight Mile Road west of Trinity Parkway	21,730	63	127	269	68.8
Eight Mile Road east of Trinity Parkway	60,030	116	246	528	73.2
Otto Drive					
Between Trinity Parkway and Mariners Drive	13,250	< 50	77	160	65.3
Hammer Lane					
Between Trinity Parkway and Mariners Drive	1,200	< 50	< 50	< 50	54.9
East of Mariners Drive	30,460	70	133	278	68.2
Trinity Parkway					
South of Eight Mile Road	42,900	75	162	348	71.9
North of McAuliffe Way	26,130	59	118	251	68.3
South of McAuliffe Way	15,150	< 50	84	175	65.9
Trinity Parkway					
North of Otto Drive	13,250	< 50	77	160	65.3
Mariners Drive					
North of Otto Drive	2,200	< 50	< 50	< 50	57.6
Between Otto Drive and Whitewater Lane	15,050	< 50	65	139	66.0
Between Whitewater lane and Blackswain Place	14,130	< 50	62	134	65.7
Between Blackswain Place and Surgeon Road	14,180	< 50	62	134	65.7
South of Surgeon Road	15,450	< 50	82	176	67.5
North of Hammer Lane	22,260	< 50	104	225	69.1
South of Hammer Lane	9,400	< 50	59	127	65.3
Regatta Drive					
South of Eight Mile Road	9,450	< 50	59	127	65.4

Source: LSA Associates Inc. April 2006

[8] Assumes traffic is utilizing Trinity Parkway between McAuliffe Way and Otto Drive; segment/Bear Creek Bridge to be constructed.
[9] Traffic noise within 50 feet of the roadway centerline requires site-specific analysis.

Permanent Impacts

Traffic Noise Impact

The proposed SATLAP re-alignment and reconstruction does not involve long-term increases in noise levels. However, the project will have an indirect effect on the noise level increases due to the relationship with Trinity Parkway improvements and the traffic generated from implementing the adjacent proposed Atlas Tract (The Preserve) development project. Since Trinity Parkway improvements are dependent of the proposed SATLAP, a noise analysis was provided as a result of the indirect effects from implementing Trinity Parkway. This analysis is provided below.

All Build Alternatives
The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. The resultant noise levels were weighted and summed over a 24-hour period in order to determine the CNEL values. The existing and projected future traffic volumes (Fehr & Peers 2006) for roadway segments in the project vicinity were used in the traffic noise impact analysis. Table 3.4.2 shows the Existing (2005) Plus Approved Projects with the Atlas Tract/The Preserve project traffic noise levels adjacent to roadway segments in the project vicinity. As Trinity Parkway between McAuliffe Way and Otto Drive is not yet constructed, the existing (2005) plus approved project traffic noise levels assumes that this roadway segment is operational. Table 3.4.3 shows the 2025 with the Atlas Tract/The Preserve project traffic noise levels adjacent to roadway segments in the project vicinity. Table 3.4.4 shows the 2035 with the Atlas Tract/The Preserve project traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in the Noise Study.

Table 3.4.2: Existing (2005) Plus Approved Projects Plus Atlas Tract/The Preserve Project Traffic Noise Levels[10]

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Eight Mile Road					
Eight Mile Road west of Regatta Drive	6,030	< 50[11]	58	117	63.2
Eight Mile Road east of Regatta Drive	15,080	< 50	100	212	67.2
Eight Mile Road west of Trinity Parkway	21,730	63	127	269	68.8
Eight Mile Road east of Trinity Parkway	62,800	120	254	544	73.4
Otto Drive					
West of Trinity Parkway	13,820	< 50	79	165	65.5
Between Trinity Parkway and Mariners Drive	22,970	< 50	109	230	67.7
Hammer Lane					
Between Trinity Parkway and Mariners Drive	1,200	< 50	< 50	< 50	54.9
East of Mariners Drive	40,120	80	158	334	69.4
Trinity Parkway					
South of Eight Mile Road	45,670	78	168	363	72.2
North of McAuliffe Way	19,300	64	130	276	68.9
South of McAuliffe Way	15,150	< 50	98	205	67.0
Trinity Parkway					
North of Otto Drive	17,500	< 50	92	192	66.5
Mariners Drive					
North of Otto Drive	2,200	< 50	< 50	< 50	57.6
Between Otto Drive and Whitewater Lane	24,725	< 50	90	194	68.1
Between Whitewater lane and Blackswain Place	23,810	< 50	88	189	68.0
Between Blackswain Place and Surgeon Road	23,860	< 50	88	189	68.0
South of Surgeon Road	25,130	53	113	244	69.6
North of Hammer Lane	31,920	62	133	286	70.7
South of Hammer Lane	9,400	< 50	59	127	65.3
Regatta Drive					
South of Eight Mile Road	9,450	< 50	59	127	65.4

Source: LSA Associates Inc. April 2006

[10] Assumes traffic is utilizing Trinity Parkway between McAuliffe Way and Otto Drive; segment/Bear Creek Bridge to be constructed.
[11] Traffic noise within 50 feet of the roadway centerline requires site-specific analysis.

Table 3.4.3: 2025 Plus Atlas Tract/The Preserve Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Eight Mile Road					
Eight Mile Road west of Regatta Drive	13,400	< 50[12]	97	197	65.9
Eight Mile Road east of Regatta Drive	16,650	< 50	110	227	66.9
Eight Mile Road west of Trinity Parkway	29,400	80	158	334	69.4
Eight Mile Road east of Trinity Parkway	59,900	119	247	528	72.4
Otto Drive					
West of Trinity Parkway	13,840	< 50	80	165	65.5
Between Trinity Parkway and Mariners Drive	28,770	59	118	250	68.3
Hammer Lane					
Between Trinity Parkway and Mariners Drive	17,610	< 50	92	193	66.6
East of Mariners Drive	28,770	68	128	268	68.0
Trinity Parkway					
South of Eight Mile Road	36,140	67	144	310	71.2
North of McAuliffe Way	38,090	73	151	322	69.9
South of McAuliffe Way	28,090	61	124	263	68.6
Trinity Parkway					
North of Otto Drive	27,900	61	123	262	68.6
South of Otto Drive	14,500	< 50	82	170	65.7
North of Hammer Lane	15,200	< 50	84	175	65.9
South of Hammer Lane	5,090	< 50	< 50	87	61.2
Mariners Drive					
North of Otto Drive	2,500	< 50	< 50	< 50	58.2
Between Otto Drive and Whitewater Lane	9,160	< 50	< 50	100	63.8
Between Whitewater lane and Blackswain Place	9,160	< 50	< 50	100	63.8
Between Blackswain Place and Surgeon Road	9,360	< 50	< 50	102	63.9
South of Surgeon Road	10,460	< 50	63	136	65.8
North of Hammer Lane	9,660	< 50	60	129	65.5
South of Hammer Lane	4,200	< 50	< 50	74	61.8
Regatta Drive					
South of Eight Mile Road	3,650	< 50	< 50	68	61.2

Source: LSA Associates Inc. April 2006

[12] Traffic noise within 50 feet of the roadway centerline requires site-specific analysis.

Table 3.4.4: 2035 Plus Atlas Tract/The Preserve Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (ft)	Centerline to 65 CNEL (ft)	Centerline to 60 CNEL (ft)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Eight Mile Road					
Eight Mile Road west of Regatta Drive	36,840	95	183	383	69.7
Eight Mile Road east of Regatta Drive	44,050	104	205	431	70.5
Eight Mile Road west of Trinity Parkway	55,750	118	238	504	71.5
Eight Mile Road east of Trinity Parkway	77,110	142	293	624	72.9
Otto Drive					
East of Shima Tract Parkway	15,420	< 50[13]	85	177	66.0
West of Trinity Parkway	35,850	71	145	309	69.7
Between Trinity Parkway and Mariners Drive	43,860	80	165	353	70.5
Hammer Lane					
Between Trinity Parkway and Mariners Drive	44,400	76	157	334	70.2
East of Mariners Drive	54,100	94	191	406	70.7
Trinity Parkway					
South of Eight Mile Road	34,960	66	141	303	71.0
North of McAuliffe Way	36,220	71	146	311	69.7
South of McAuliffe Way	32,490	67	136	289	69.2
Trinity Parkway					
North of Otto Drive	31,290	65	133	282	69.1
South of Otto Drive	19,100	< 50	97	204	66.9
North of Hammer Lane	34,720	74	144	303	68.8
South of Hammer Lane	25,260	64	119	246	67.4
Mariners Drive					
North of Otto Drive	1,600	< 50	< 50	< 50	56.2
Between Otto Drive and Whitewater Lane	8,800	< 50	< 50	97	63.6
Between Whitewater lane and Blackswain Place	8,800	< 50	< 50	97	63.6
Between Blackswain Place and Surgeon Road	9,000	< 50	< 50	99	63.7
South of Surgeon Road	10,100	< 50	62	133	65.7
North of Hammer Lane	11,800	< 50	69	147	66.3
South of Hammer Lane	4,770	< 50	< 50	81	62.4
Regatta Drive					
South of Eight Mile Road	11,290	< 50	67	143	66.1
Shima Tract Parkway					
North of Otto Drive	13,560	< 50	61	130	65.5
South of Otto Drive	12,890	< 50	59	126	65.3

Source: LSA Associates Inc. April 2006

[13] Traffic noise within 50 feet of the roadway centerline requires site-specific analysis.

Based on Table 3.4.4, traffic noise could impact existing off-site noise-sensitive land uses along the extended Trinity Parkway south of Otto Drive.

Existing residences are located east of the proposed Trinity Parkway approximately 70 feet from the centerline. Outdoor active use areas such as backyards, patios, or balconies associated with these existing residences may be exposed to a traffic noise level of 67 dBA CNEL, and mitigation to reduce exterior noise levels to the City exterior noise standard of 60 dBA CNEL or below would be required. The proposed Trinity Parkway Extension Phase 2 proposes to use rubberized asphalt and would reduce traffic noise levels of 2 dBA or more from the predicted traffic noise levels. Therefore, if the existing residences do not have any sound barriers between the outdoor active use area and the proposed Trinity Parkway extension, a sound barrier with a minimum wall height of six feet is required along Trinity Parkway to provide noise attenuation for outdoor active use areas associated with existing residences located east of the project site. If, however, these existing residences have sound barriers lower than six feet, additional wall height is required to reduce traffic noise levels to 60 dBA CNEL or below. Also, second-floor balconies with a minimum wall height of six feet along the perimeter of balconies are required to reduce traffic noise levels to 60 dBA CNEL or below.

The proposed Atlas Tract/The Preserve development is located west of the proposed Trinity Parkway. As this project has not yet been approved, no mitigation measures are required. However, mitigation measures to reduce traffic noise levels will be the responsibility of the proposed development.

Residential structures located with 323 feet of the Trinity Parkway centerline where there are no intervening structures between them would be exposed to a traffic noise level exceeding 57 dBA CNEL. With windows open, interior noise levels at these residences would potentially exceed the interior noise standard of 45 dBA CNEL (*i.e.,* 58 dBA – 12 dBA = 46 dBA). As there are existing residences located adjacent to the proposed Trinity Parkway extension, the City shall coordinate with residents to ensure that mechanical ventilation systems such as air-conditioning is provided to maintain the interior noise standard of 45 dBA CNEL.

Temporary Impacts

All Build Alternatives

Two types of short-term noise impacts would occur during construction of the project. The first type of short-term noise impact would be from construction crew commutes and the transport of construction equipment and materials to the project site and would incrementally raise noise levels on access roads leading to the site. The pieces of heavy equipment for grading and construction activities will be moved on site, will remain for the duration of each construction phase, and will not add to the daily traffic volume in the project vicinity. There will be a relatively high single event noise exposure potential at a maximum level of 86 dBA L_{max} from trucks passing at 15 meters (m)/50 feet (ft). However, the projected construction traffic will be small when compared to the existing traffic volumes, and its associated long-term noise level change will not be perceptible. Therefore, short-term construction related worker commutes and equipment transport noise impacts would be less than substantial.

The second type of short-term noise impact is related to noise generated during excavation, grading, levee reconstruction and roadway construction. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated and, therefore, the noise levels along the project alignment as construction progresses. Despite the variety in the type and size of construction equipment similarities in the dominant noise sources and patterns of operation allow construction related noise ranges to be categorized by work phase. Table 3.4.5 lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments, based on a distance of 15 m (50 ft) between the equipment and a noise receptor.

Typical noise levels at 15 m (50 ft) from active construction areas range up to 91 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings.

Construction of the proposed SATLAP and extension of Trinity Parkway is expected to require the use of on-site scrapers, bulldozers, and water and pickup trucks. Noise associated with the use of construction equipment is estimated between 80 and 96 dBA L_{max} at a distance of 15 m (50 ft) from the active construction area for the grading phase. As seen in Table 3.4.5, the maximum noise level generated by each scraper is assumed to be approximately 87 dBA L_{max} at 15 m (50 ft) from the scraper in operation. Each bulldozer would also generate approximately 85 dBA L_{max} at 15 m (50 ft). The maximum noise level generated by water and pickup trucks is approximately 86 dBA L_{max} at 15 m (50 ft) from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Each piece of the construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 91 dBA L_{max} (at a distance of 15 m [50 ft] from an active construction area).

The closest existing residences in the vicinity of the project area are located within 15 m (50 ft) of the project construction areas. Therefore, the closest residences may be subject to short-term noise reaching 91 dBA L_{max}, generated by construction activities along the project alignment. To minimize the construction noise impact for existing residences adjacent to the project site, construction activities will be restricted to the hours between 7:00 a.m. and 10:00 p.m. on weekdays and weekends.

Table 3.4.5: Typical Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 15 m (50 ft))	Suggested Maximum Sound Levels for Analysis (dBA at 15 m (50 ft))
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81 to 96	93
Rock Drills	83 to 99	96
Jackhammers	75 to 85	82
Pneumatic Tools	78 to 88	85
Pumps	74 to 84	80
Dozers	77 to 90	85
Scrapers	83 to 91	87
Haul Trucks	83 to 94	88
Cranes	79 to 86	82
Portable Generators	71 to 87	80
Rollers	75 to 82	80
Tractors	77 to 82	80
Front-End Loaders	77 to 90	86
Hydraulic Backhoe	81 to 90	86
Hydraulic Excavators	81 to 90	86
Graders	79 to 89	86
Air Compressors	76 to 86	86
Trucks	81 to 87	86

Source: Bolt, Beranek & Newman 1987.

Mitigation Measures

The following mitigation measures shall be implemented for the existing noise-sensitive land uses adjacent to the proposed SATLAP and as a result of implementing Trinity Parkway extension improvements:

Mitigation N-1: Alternative 1 and Alternative 3. The existing first row of residences located east of the project site requires a sound barrier to protect outdoor active use areas such as backyards, patios, and balconies located in the following areas:

- A minimum wall height of six feet to protect backyards and ground-floor patios
- A minimum wall height of six feet to protect second-floor balconies

The wall would extend six feet from the existing roadway grade.

Mitigation N-1: Alternative 2. With construction of Trinity Parkway as a two-lane roadway, traffic noise levels would be reduced by some degree. As with Alternative 1, a minimum wall height of six feet would be sufficient to protect outdoor active use areas and balconies. The wall shall extend six feet from the roadway grade. Therefore, where the roadway is raised at Otto Drive to provide access to the Atlas Tract the wall would be higher in order to account for the elevated roadway grade.

Mitigation N-1: Alternative 4. As with the other alternatives, a minimum wall height of six feet would be required to protect outdoor active use areas and balconies. The wall shall extend six feet from the roadway grade, which would lie on top of the levee. Therefore, the wall would be higher in order to account for the height of the levee.

Mitigation N-2: The City shall coordinate with residences located adjacent to the proposed project to ensure that air-conditioning systems are provided to maintain the City's interior noise standard of 45 dBA CNEL within 323 feet of the Trinity Parkway centerline.

Mitigation N-3: Construction of the proposed project would potentially result in relatively high noise levels and annoyance at the closest residences. The following measures would reduce short-term construction related noise impacts resulting from the proposed project:

- During all project site excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- During all project site construction, the construction contractor shall limit all construction-related activities to the hours of 7:00 a.m. to 10:00 p.m. on weekdays and weekends.

Findings

With the implementation of the measures outlined above, the increase in noise levels generated during construction will be reduced. Likewise, noise barriers and air conditioning systems needed to reduce vehicular noise from using Trinity Parkway will mitigate long-term roadway impacts. Project-related noise mitigation measures are not required for long-term levee operations.

3.5 HYDROLOGY AND FLOODPLAIN

Affected Environment

The proposed roadway project is located between Bear Creek and Mosher Slough. Both Bear Creek and Mosher Slough are located within the Mokelumne River drainage basin. The headwaters of Bear Creek are located just west of Valley Springs, California, at an approximate maximum watershed elevation of 1,034 feet. Bear Creek flows southwestward into the Delta at Pixley Slough, draining areas to the south and southeast of Lodi. Just south of Bear Creek's watershed, Mosher Creek flows southwestward into the Delta at Mosher Slough, draining agricultural areas to the east of Stockton and urban lands in northern Stockton.

The 100-year floodplain for Bear Creek within the project area was studied in detail in the FEMA Flood Insurance Study (FIS) (FEMA 2002). The project site is located on Panel 0005E of the Flood Insurance Rate Maps (FIRM) for the City of Stockton, California, Revised: April 2, 2002. Bear Creek and Mosher Slough are mapped as Zone A, 100-year flood contained in channel.

As outlined in the project description, in the summer/fall of 2006, the Perimeter Levee System (PLS) was improved to provide flood protection estimated to be in excess of the 200-year flood event. Based upon those improvements, the Federal Emergency Management Agency (FEMA) has recently issued a Letter of Map Revision demonstrating that the site now has flood protection exceeding the federal minimum. With the enhanced levee system in place, lands within the Atlas Tract will be protected from tidally influenced delta flood waters, as well as the upstream flooding potential from Bear Creek and Mosher Slough. The PLS improvements will also provide the existing residential users in the Twin Creek Estates subdivision continued flood protection in addition to the protection afforded by the existing levee.

Permanent Impacts

All Build Alternatives

Implementation of the proposed build alternatives would not significantly alter the existing drainage pattern of the site. Site drainage patterns will be generally retained due to the previous rough grading activity associated with the graded right of way and presence of the existing dry land levee. Runoff generated by the Trinity Parkway roadway improvements will be diverted into storm drains at Otto Drive that discharge runoff into the existing storm drain system, through the surface drainage system on the Atlas Tract, and ultimately into Mosher Slough.

Implementation of the proposed SATLAP would not expose people or structures to risk from flooding. The enhanced PLS, constructed in the summer/fall of 2006, provides flood protection for Twin Creek Estates subdivision with retaining the dry land levee in place (Alternative 2). Realignment (Alternative 1) or widening (Alternative 4) of the levee will continue to provide additional protection for the Twin Creeks Estates subdivision from the risk of flooding in the Delta. If the existing levee is completely removed (Alternative 3), some additional risk of flooding from a catastrophic event may expose residents in the Twin Creeks Estates to flooding hazards.

Temporary Impacts

All Build Alternatives
No temporary impacts (construction or other) are anticipated.

Mitigation Measures

No mitigation is required.

3.6 WATER QUALITY

Affected Environment

The project site is located in the Central Valley Region of the Regional Water Quality Control Board (RWQCB) for the State of California. The 1998 Central Valley Region Basin Plan (Basin Plan), which includes the project area, lists the beneficial uses for major surface waters contained in the Sacramento San Joaquin Delta Hydrologic Unit. Beneficial uses vary throughout the Delta but are identified in the Basin Plan as municipal and domestic water supply, irrigation and stock watering, industrial, contact and non-contact recreation, warm and cold freshwater habitat, migration, spawning, wildlife, and navigation.

The proposed roadway will be located between Bear Creek and Mosher Slough. Both Bear Creek and Mosher Slough are located in the tidally-influenced lower reaches of the San Joaquin River basin. Water quality is influenced by areas upstream that flow into these creeks, including agricultural runoff, development, City of Lodi and Stockton stormwater, and possibly, by tidally caused flow reversals.

The California Department of Water Resources maintains a water quality surveillance station in Disappointment Slough at Bishop Cut, just west of the Bear Creek Bridge. Water quality data from this monitoring station indicate that surface water in the project vicinity is moderately low in total dissolved solids, usually has dissolved oxygen concentrations greater than 75 percent saturation, has chlorophyll levels indicating no nuisance algae conditions, and has high turbidity resulting from suspended solids. There is no indication of toxic or non-aesthetic concentrations of trace elements or major ions.

The City has developed an urban storm water runoff management plan pursuant to the National Pollutant Discharge Elimination System (NPDES) requirements in order to improve water quality. The project is subject to the requirements of the City's Stormwater Quality Control Criteria Plan (SWQCCP), as outlined in the City's Phase 1 Stormwater NPDES permit issued by the California Water Quality Control Board, Central Valley Region (Order No. R502002-0181). Implementation of the SWQCCP became effective on November 25, 2003.

Permanent Impacts

All Build Alternatives

Storm water runoff from the roadways may contain sediments, oil, grease, petroleum products, zinc, copper, lead, cadmium, iron, and other trace metals that accumulate on road surfaces. These pollutants and sediment impact aquatic systems in a variety of ways. For example, toxic pollutants can kill aquatic species outright or cause physiological damage over the long term. Sediments can decrease visibility, alter channel substrates, and contribute excess nutrients to the aquatic system. These nutrients can cause excessive plant growth or "algal blooms" that deplete oxygen resources as plants die and decompose. Algal blooms can ultimately cause major die-offs of aquatic species.

Spills caused by roadway-related accidents have the ability to cause great damage to water quality, depending on the type and quantity of the material spilled. Application of chemicals from landscaping operations and maintenance activities could potentially enter the receiving waters. Herbicides could be poisonous to fish and other aquatic animals and aquatic plants. Conversely, fertilizers may promote algae growth, which could reduce dissolved oxygen levels.

The proposed SATLAP will not directly increase the amount of impermeable surfaces within the project area. However, since the extension of Trinity Parkway is associated with re-alignment of the existing levee, an increase in impermeable surfaces and runoff quantities is anticipated from roadway construction. Nonetheless, there will be no impact on down stream conditions or increase in the potential for down stream flooding. Site drainage patterns will generally be retained due to the previous rough grading activity associated with the graded right-of-way and the presence of the existing levee. Runoff generated by the proposed roadway improvements will be diverted into storm drains at Otto Drive that discharge runoff into the existing storm drain system, through the surface drainage system on the Atlas Tract, and ultimately into Mosher Slough.

With suitable application of Best Management Practices (BMP) and incorporation of project design features, the proposed SATLAP would not create conditions that degrade water quality, including any conditions contributing to violation of water quality standards or waste discharge requirements. To ensure that water quality is not degraded, storm drain facilities from the proposed project would collect storm water and discharge back into the City’s storm drain system. Runoff generated from the Trinity Parkway improvements will be sent to a planned stormwater facility within Atlas Tract, which will be sized to accommodate the project’s stormwater runoff as well as any future project within Atlas Tract.

Temporary Impacts

All Build Alternatives

Materials used during re-alignment and reconstruction of the proposed levee and during construction of the Trinity Parkway roadway improvements may have chemicals that are potentially harmful to aquatic resources and water quality. Accidents or improper use of these materials could release contaminants to the environment. Additionally, oil and other petroleum products used to maintain and operate construction equipment could be accidentally released. These compounds may be acutely toxic to aquatic species. To prevent the release of these compounds, implementation of mitigation measures and BMPs will decrease the likelihood of these potential impacts.

Construction-related impacts could degrade local and regional water quality conditions, due to the potential increase in erosion and sedimentation. Likewise, routine daily contractor activity would involve material deliveries, storage and usage of construction equipment, vehicle and equipment cleaning and operation, waste management, and use of construction staging areas that could result in generation of dust, sediments, and debris. For this reason, a construction equipment staging area has been designated on the low lands within the Atlas Tract, adjacent to the proposed levee re-alignment. In the event of a fuel spill, the contaminants would be contained within this immediate location avoiding any potential to spill into the adjacent slough areas and impact water resources or aquatic wildlife. Consistent with the ESA Section 7 Consultation previously completed by NMFS on the Atlas Tract Development (August 18, 2006), a Stormwater Prevention Pollution Plan incorporating BMPs shall be implemented that includes actions for reducing construction related contaminants. Grading would include removal of the natural and/or stabilizing cover (topsoil) and the creation of engineered slopes using fill material. Prior to the establishment of temporary or permanent erosion control measures, graded material would be highly susceptible to erosion.

To prepare the ground for temporary and/or permanent cover and promote better vegetation growth, fertilizers and plant nutrients may be applied before and after planting. In the early stages of the seeding process, surface runoff could indirectly wash some of the fertilizers and nutrients into the adjacent surface waters.

The potential for erosion and runoff from unprotected/graded surfaces is greatest during the winter season. Sediments suspended in runoff would be carried downstream, where, if not controlled, could accumulate in downstream watercourses, canals, or wetlands areas, potentially harming any downstream aquatic resources and water quality. These impacts can be lessened or controlled through the implementation of BMPs such as straw wattle and/or silt fencing. Accordingly, a silt fencing program will be implemented along the top of the existing perimeter levee system (PLS) at the proposed levee tie-ins to prevent silt from the inadvertent release into the adjacent slough resources. As feasible, construction activities should be coordinated to avoid erosion generating activities during the rainy season and impacts to sensitive aquatic species.

Permits/Correspondence

On October 2, 2007, the RWQCB acted on a request from Reclamation District No. 2126 for compliance with Clean Water Act Section 401. Although not technically required for the proposed SATLAP, which does not involve a discharge into waters of the U.S., the RWQCB issued an Order for Technical-conditioned Certification per WDID#5B39CR00136. The letter is attached in Appendix A Correspondence.

Mitigation Measures

All Build Alternatives

The SATLAP levee re-alignment and reconstruction and the Trinity Parkway extension roadway design will include conveyance mechanisms to discharge storm water runoff to the City's storm drain system. Storm drainage plans will be required to demonstrate that the runoff from the roadway can be adequately conveyed to a planned stormwater facility within Atlas Tract, which will be sized to accommodate the project's stormwater runoff as well as any future project within Atlas Tract.

The City of Stockton has developed an urban stormwater runoff management plan pursuant to the National Pollutant Discharge Elimination System (NPDES) requirements in order to improve runoff water quality. The proposed project is subject to the requirements of the City's Stormwater Quality Control Criteria Plan (SWQCCP), as outlined in the City's Phase 1 Stormwater NPDES permit issued by the California Water Quality Control Board, Central Valley Region (Order No. R5-2002-0181). Implementation of the SWQCCP became effective on November 25, 2003.

Impacts to water quality would be mitigated by implementing the following measures:

Mitigation WQ-1: The Owners, Developers, and/or Successors-in-Interest (ODS) must establish maintenance entity acceptable to the City to provide funding for the operation, maintenance and replacement costs of the Storm Water Best Management Practices (BMPs).

Mitigation WQ-2: The project will comply with the applicable water quality and storm drainage discharge requirements of the City of Stockton Public Works Department, City of Stockton Department of Municipal Utilities, and Regional Water Quality Control Board – Central Valley Region. These requirements prohibit discharge of pollutants to the storm drain system leading to downstream violation of water quality standards.

Mitigation WQ-3: The ODS shall comply with any and all requirements, and pay all associated fees, as required by the City's Storm Water Pollution Prevention Program, as set forth in its NPDES Storm Water Permit.

- A signed Notice of Intent (NOI) or Wasted Discharger Identification Number (WDID) shall be submitted to the City of Stockton.
- Prior to project approval, the City of Stockton will require an Erosion Control Plan to be incorporated into the project plans and/or grading plans prior to approval.

Mitigation WQ-4: The ODS shall specify to the contractor that hauling/driving of construction equipment, as well as loading/unloading of construction equipment shall be prevented on top of the existing levees (adjacent to Bear Creek and Mosher Slough). Further, all fueling activities shall be conducted at the construction staging area designated at an elevation that is lower than the surrounding perimeter levee system.

The following additional Best Management Practices (BMPs) shall be implemented for the fueling site/construction staging location (California Stormwater Quality Association):

- Discourage "topping-off" of fuel tanks.
- Absorbent spill cleanup materials and spill kits should be available in fueling areas and on fueling trucks, and should be disposed of properly after use.
- Drip pans or absorbent pads should be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the absorbent materials promptly and dispose of properly.
- Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and large excavators, most vehicles should be able to travel to a designated area with little lost time.
- Train employees and subcontractors in proper fueling and cleanup procedures.
- When fueling must take place onsite, designate an area away from drainage courses to be used. Fueling areas should be identified in the SWPPP.
- Dedicated fueling areas should be protected from stormwater runon and runoff, and should be located at least 50 feet away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
- Protect fueling areas with berms and dikes to prevent runon, runoff, and to contain spills.

- Nozzles used in vehicle and equipment fueling should be equipped with an automatic shutoff to control drips. Fueling operations should not be left unattended.
- Use vapor recovery nozzles to help control drips as well as air pollution where required by Air Quality Management Districts (AQMD).
- Federal, State, and local requirements should be observed for any stationary above ground storage tanks.
- Vehicle and equipment should be inspected each day of use for leaks. Leaks should be repaired immediately or problem vehicles or equipment should be removed from the project site.
- Keep ample supplies of spill cleanup materials onsite.
- Immediately clean up spills and properly dispose of contaminated soil and cleanup materials.

Findings

With the implementation of the measures outlined above, the potential issues associated with water quality during re-alignment and reconstruction of the proposed levee and construction of Trinity Parkway extension, as well as long-term operation of the levee/roadway infrastructure will be mitigated.

3.7 WETLANDS AND WATERS OF THE U.S.

Affected Environment

Under Section 404 of the Clean Water Act (CWA), the ACOE regulates the discharge of dredged or fill material into waters of the U.S. Waters of the U.S. are those waters that have a connection to interstate commerce; either direct via a tributary system or indirect through a nexus identified in the ACOE regulations. In non-tidal waters, the lateral limit of jurisdiction under Section 404 extends to the ordinary high water mark (OHWM) of a waterbody or, where adjacent wetlands are present, beyond the OHWM to the limit of the wetlands. The OHWM is defined as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area” (33 CFR 328.3). In tidal waters, the lateral limit of jurisdiction extends to the high tidal line (HTL) or, where adjacent wetlands are present, beyond the HTL to the limit of the wetlands.

Under Section 401 of the CWA, the State Water Resources Control Board must certify all activities requiring a 404 permit. The Central Valley RWQCB regulates these activities and issues water quality certification for those activities requiring a 404 permit. In addition, the RWQCB has authority to regulate the discharge of “waste” into waters of the State pursuant to the Porter-Cologne Water Quality Control Act (P-C).

CDFG, through provisions of Sections 1601-1603 of the State Fish and Game Code, is empowered to issue agreements for any alteration of a river, stream, or lake where fish or wildlife resources may be substantially adversely affected. Streams and rivers are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. CDFG regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake, as defined by CDFG.

CDFG generally includes, within the jurisdictional limits of streams and lakes, any riparian habitat present. Riparian habitat includes willows, cottonwoods, and other vegetation typically associated with the banks of a stream or lake shoreline. In most situations, wetlands associated with a stream or lake would fall within the limits of riparian habitat. Thus, defining the limits of CDFG jurisdiction based on riparian habitat will automatically include any wetland areas. Riparian communities may not fall under ACOE jurisdiction unless they are below the OHWM or classified as wetlands.

The USCG has jurisdiction over bridges which cross the navigable waters of the United States. USCG authority relates to the location, clearances of bridges, bridge permits, construction activities, navigation lights and signals at bridges, and the regulations which govern the operation of drawbridges.

The USCG may issue a standard permit for a given activity within navigable waterway in USCG jurisdiction, or if the location of activity is within USCG jurisdiction but the waterway is only navigable for small motorboats or smaller craft (e.g., canoes), the USCG may issue an “advance approval” to authorize the activity.

There are no potential jurisdictional waters within the project area. Potential jurisdictional waters in the project vicinity include the interior drainage ditches within the Atlas Tract and the tidal waters of Bear Creek and Mosher Slough that surround Atlas Tract.

Permanent Impacts

All Build Alternatives
The proposed build alternatives will not affect any federally regulated wetlands, waters of the U.S. or waters of the state. As described above, there are no jurisdictional waters on the project site. Only Alternative 1 (proposed project) encroaches slightly into the Atlas Tract due to the levee realignment/SATLAP. However, the re-alignment and reconstruction of the proposed levee and Trinity Parkway extension improvements will not intrude into the portion of Atlas Tract where potential jurisdictional waters are present. Therefore, no jurisdictional waters would be impacted by the proposed project.

Temporary Impacts

All Build Alternatives
No temporary impacts have been identified.

Permits/Correspondence

On December 17, 2007, the California Department of Fish and Game (CDFG) acted on a request from Reclamation District No. 2126 for compliance with Notification of Lake or Streambed Alteration Notification for the proposed project. The CDFG provided correspondence indicating that no agreement was necessary as a component of the Notification per No. 1600-2007-0395-3. The letter is attached in Appendix A Correspondence.

Coordination efforts with the U.S. Army Corps of Engineers (Corps) were also conducted to determine the potential for Section 404 permit compliance. This coordination was completed via telephone communication between Rick Harlacher (LSA) and Mark Fugler (Corps of Engineers)(October 17, 2007). According to Mr. Fugler, the Corps has determined that the proposed levee relocation activity is within the same action area as the Atlas Tract (The Preserve) development project and has been included in the verified jurisdiction delineation (file No. 200600224) for the Atlas Tract (attached in Appendix A). In addition, as the verified jurisdictional delineation for file No. 200600224 indicates that 404 waters will not be impacted by the levee relocation, no additional permit compliance is required.

Mitigation Measures

All Build Alternatives
None required.

3.8 WILDLIFE AND VEGETATION

Vegetation in the project area was generally defined using Holland and Keil (1995) and the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) (2000).

Affected Environment

The project area is a highly altered environment and natural communities have been largely displaced. Vegetation occurring on the site can be classified into two elements: ruderal uplands and agricultural lands.

Natural Communities

Ruderal Uplands *(SJMSCP Vegetation Type C3, U, or U2 [Row and Field Crops, Ditched; Urban; Scraped/Paved])*
Ruderal upland areas consist of artificial structures within the study area including the existing levee. Vegetation is often entirely lacking in these areas or consists of a very low diversity of species adapted to disturbed conditions (*e.g.,* Himalaya blackberries [*Rubus discolor*] along the levee).

Wildlife species associated with ruderal habitats include western harvest mouse (*Reithrodontomys megalotis*), California meadow vole (*Microtus californicus*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), sparrows (*Zonotrichia* spp.), song sparrow (*Melospiza melodia*), red-winged blackbird (*Agelaius phoeniceus*), goldfinches (*Carduelis* spp.), and western meadowlark (*Sturnella neglecta*).

Ruderal habitat that occurs along the levee supports California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), western fence lizard (*Sceloporus occidentalis*) and other reptile species. The presence of California ground squirrel burrows provides potential nesting habitat for burrowing owls (*Athene cunicularia*).

Agricultural Lands (*Agrestal; SJMSCP Vegetation Type C3 [Row and Field Crops, Ditched])*
Most of the area to the west of the existing levee consists of agricultural land. These areas were previously in crop production but are now dominated by primarily nonnative weedy grasses and forbs. Dominant species include oat (*Avena* sp.), brome grasses (*Bromus* sp.), black mustard (*Brassica nigra*), milk thistle (*Silybum marianum*), wild radish (*Raphanus sativus*), and morning glory (*Convolvulus arvensis*).

Generally, agricultural lands do not provide high quality habitat for resident wildlife species. This is due, in part, to extensive land manipulation and pesticide application associated with agricultural operations. Some opportunistic species, however, are well adapted to these communities include: California ground squirrel, Botta's pocket gopher, western harvest mouse, and California meadow vole. Several bird species are likely to occur and forage over the crop lands: American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), red-tailed hawk (*Butteo jamaicensis*), and Swainson's hawk (*Buteo swainsonii*). Migratory species and waterfowl also tend to use agricultural communities, particularly in the winter months.

Permanent Impacts

All Build Alternatives
The project site (existing and proposed levee impact area) supports primarily highly disturbed, nonnative vegetation communities and provides minimal habitat value. The loss of nonnative plant communities on the project site is considered less than significant.

Temporary Impacts

All Build Alternatives
No temporary impacts have been identified.

Mitigation Measures

All Build Alternatives
None required.

3.9 THREATENED AND ENDANGERED SPECIES

The proposed SATLAP has been considered in other previous reviews, consultations and decisions that remain relevant to threatened and endangered species issues. These include the Phase 1 Trinity Parkway/Bear Creek Bridge project and the PLS. In addition, coordination with CDFG and the RWQCB has occurred and documentation has been included in Appendix A.

Affected Environment

As noted previously, the project area is a highly altered environment and natural communities have been largely displaced. The project area provides limited habitat suitable for threatened or endangered species; however, federally listed and other special status species may occur in the project vicinity.

Regulatory Background

Special-status species are those species that are listed as threatened or endangered by the California Department of Fish and Game (CDFG), U.S. Fish and Wildlife Service (USFWS), or National Marine Fisheries Service (NMFS), or are on formal lists as candidates for listing as threatened or endangered. In addition, informal lists maintained by the State include California Species of Special Concern which are plant and wildlife species that are of concern and are included in the California Natural Diversity Database (CNDDB). The California Native Plant Society (CNPS) also maintains informal lists containing special status plant species that are recognized by the resource and regulatory agencies.

Federal Endangered Species Act (FESA): The FESA protects listed species from "take," which is broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such conduct." An activity is defined as a "take" even if it is unintentional or accidental. The USFWS and NMFS have jurisdiction over formally listed threatened and endangered species under the FESA.

Impacts to federally listed species are assessed for the project's "action area." The action area includes all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.

When a species is listed, the USFWS and NMFS, in most cases, must officially designate specific areas as critical habitat for the species. Consultation with USFWS and/or NMFS is required for projects that include a federal action or federal funding and will modify designated critical habitat. NMFS also regulates federal activities that could affect Essential Fish Habitat (EFH) for pacific salmon, as defined under the Magnussen-Stevens Fishery Conservation and Management Act (MSA).

California Endangered Species Act (CESA): The CDFG has jurisdiction over State-listed, threatened, and endangered species under the CESA. The CESA prohibits take of species listed under the State act, pursuant to Section 2081 of the Fish and Game Code. Under the CESA, take means to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP): The San Joaquin Council of Governments (SJCOG) has adopted a habitat conservation plan known as the San

Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) to offset biological impacts created by projects within San Joaquin County. One of the primary goals of the SJMSCP was to obtain permits from state and federal agencies that would cover projects over the next 50 years. To this end, the USFWS (May 31, 2001) and CDFG (July 13, 2001) have issued incidental take permits in conformance with FESA and CESA. Activities impacting anadromous fish and waters of the United States are subject to NMFS and ACOE regulations, respectively, and are not covered under the SJMSCP. These activities must be permitted directly through NMFS and ACOE. Generally, the direct take of species is not covered under the SJMSCP; only take of suitable habitat is allowed based on appropriate compensation and implementation of avoidance and minimization measures. Additionally, some special status species are not covered under the SJMSCP and impacts to these species require direct permitting through the appropriate agency.

Impacts to habitat for special status plant and animal species covered under the SJMSCP require payment of mitigation fees.

Migratory Bird Treaty Act (MBTA): The Migratory Bird Treaty Act of 1918 (16 U.S.C. §§ 703-712, July 3, 1918, as amended 1936, 1960, 1974, 1978, 1986, and 1989) makes it unlawful to “take” (kill, harm, harass, shoot, etc.) any migratory bird listed in Title 50 of the Code of Federal Regulations, Section 10.13, including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

Special Status Species Definitions

Special status species lists were generated from the CNDDB (2005) and CNPS Electronic Inventory (2005), referencing the Terminous and Lodi South quadrangles. These lists were reviewed to determine which species could potentially occur on the project site. The lists included numerous species representing a variety of habitat types, many of which do not occur on the site. Only species potentially occurring in the project area base on habitat suitability are considered in this evaluation.

A current (2007) list of federally listed, proposed and candidate species for San Joaquin County was obtained from the USFWS Sacramento Office web site. Species included on this list are described in Table 3.9.1, below.

Special status species are defined as follows:

- Plants and animals that are listed or proposed for listing as threatened and endangered under the CESA or the FESA;
- Plants and animals that are candidates for possible future listing as threatened or endangered under the FESA and CESA;
- Plants and animals that meet the definition of endangered, rare, or threatened under the CEQA that may include species not found on either state or federal endangered species list;
- Plants occurring on Lists 1A, 1B, 2, 3, and 4 of CNPS’ electronic inventory (2005). CDFG recognizes that Lists 1A, 1B, and 2 of the CNPS inventory contain plants that, in the majority of cases, would qualify for State listing, and CDFG requests their inclusion in EIRs. Plants

occurring on CNPS Lists 3 and 4 are "plants about which more information is necessary," and "plants of limited distribution," respectively (CNPS 2001). Such plants may be included as special-status species on a case by case basis due to local significance or recent biological information;

- Migratory nongame birds of management concern listed by the USFWS;
- Animals that are designated as "species of special concern" by CDFG;
- Animals that are designated "birds of conservation concern (BBC)." The U.S. Fish and Wildlife Service Sacramento Office no longer maintains Species of Concern List;
- Animal species that are "fully protected" in California.

Table 3.9.1: Federally Listed, Proposed and Candidate Special Status Species Potentially Occurring in the San Joaquin County Area

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/Absent	Rationale
Mammals					
Neotoma fuscipes riparia	Riparian (San Joaquin Valley) woodrat	FE[1], CSC, SJMSCP	Riparian areas along the Stanislaus, San Joaquin, and Tuolumne Rivers. Requires areas with a mix of brush and trees, with suitable nesting sites in trees, snags or logs.	A	No suitable habitat for this species occurs in the action area.
Sylvilagus bachmani riparius	Riparian brush rabbit	FE[1], SE, SJMSCP	Riparian areas with dense thickets in the Central Valley.	A	No suitable habitat for this species occurs in the action area.
Vulpes macrotis mutica	San Joaquin kit fox	FE[1], ST, SJMSCP	Annual grasslands or grassy open stages with scattered vegetation; need loose-textured soils for burrowing, and a suitable prey base.	A	The project's action area is not within the range of the San Joaquin kit fox; this species is considered absent from the action area.
Reptiles					
Masticophis lateralis euryxanthus	Alameda whipsnake	FT[1], ST	Restricted to valley-foothill hardwood habitat of the coast ranges, between the vicinity of Monterey and north San Francisco Bay. Inhabits south facing slopes and ravines where shrubs forma mosaic with oak trees and grassland.	A	The project's action area is not within the range of the Alameda whipsnake; this species is considered absent from the action area.
Thamnophis gigas	Giant garter snake	FT[1], ST, SJMSCP	Streams and sloughs, usually with mud bottom. One of the most aquatic of garter snakes; usually in areas of freshwater marsh and low-gradient streams with emergent vegetation, also drainage canals, irrigation ditches, ponds, and small lakes.	P	Suitable habitat for this species occurs in the project's action area; see additional discussion in text.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/Absent	Rationale
Amphibians					
Ambystoma californiense	California tiger salamander	FT[1], CSC, SJMSCP	Most commonly found in grasslands or open woodland habitats. Live in vacant or mammal-occupied burrows (e.g., California ground squirrel, valley pocket gopher), and occasionally other underground retreats, throughout most of the year. Lays eggs on submerged stems and leaves, usually in shallow ephemeral or semi-permanent pools or ponds that fill during heavy winter rains, sometimes in permanent ponds lacking fish or other predators.	A	No suitable habitat for this species occurs in the project's action area; no vernal pools or other suitable breeding habitat occurs in the area; closest designated Critical Habitat is over 20 miles east of the action area.
Rana aurora draytonii	California red-legged frog	FT[1], CSC, SJMSCP	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	A	No suitable habitat for this species occurs in the project's action area.
Fish					
Acipenser medirostris	Green sturgeon	FT[2], CSC, SJMSCP	Most often in marine waters; estuaries, lower reaches of large rivers, salt or brackish water off river mouths.	A	No suitable habitat for this species occurs in the project's action area. Per prior ESA Section 7 consultation, the proposed SATLAP site does not fall within the geographic boundaries for the Southern Distinct Population Segment (DPS) of North American green sturgeon.
Hypomesus transpacificus	Delta smelt	FT[1], ST, SJMSCP	Sacramento-San Joaquin delta. Seasonally in Suisun bay, Carquinez strait, and San Pablo bay. Seldom found at salinities greater than 10 ppt. Most often in salinities less than 2 ppt.	P	Suitable habitat for this species occurs in Bear Creek and Mosher Slough; see additional discussion in text.
Oncorhynchus mykiss irideus	Central Valley steelhead	FT[2]	Populations occur and spawn in the Sacramento and San Joaquin rivers and their tributaries.	P	Suitable habitat for this species occurs in Bear Creek and Mosher Slough; see additional discussion in text.
Oncorhynchus tshawytscha	Central Valley spring-run chinook salmon	FT[2], ST	Found mainly in the Sacramento River and its tributaries, and most spawning and rearing of juveniles, takes place in the reach between Red Bluff and Redding (Keswick Dam). Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel.	A	No suitable habitat for this species occurs in the project's action area.

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/Absent	Rationale
Oncorhynchus tshawytscha	Central Valley winter-run chinook salmon	FE[2], SE	Sacramento River below Keswick Dam. Spawns in the Sacramento River but not in tributary streams.	A	No suitable habitat for this species occurs in the project's action area.
Invertebrates					
Branchinecta conservatio	Conservancy fairy shrimp	FE[1], SJMSCP	Large turbid pools in grasslands of the Central Valley.	A	No vernal pools, or other suitable aquatic habitat occur in the project's action area..
Branchinecta longiantenna	Longhorn fairy shrimp	FE[1], SJMSCP	Inhabits small, clear-water depressions in sandstone and clear to turbid clay/grass-bottomed pools in shallow swales in the eastern margin of the Central Coast Mountains in seasonally astatic grassland vernal pools.	A	No vernal pools or other suitable aquatic habitat occur in the project's action area.
Branchinecta lynchi	Vernal pool fairy shrimp	FT[1], SJMSCP	Endemic to the grasslands of the Central Valley, Central Coast Mountains and South Coast Mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swales, earthen slumps, or basalt-flow depression pools.	A	No vernal pools, or other suitable aquatic habitat occur in the project's acti0on area.
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT[1], SJMSCP	Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus mexicana*). Prefers branches greater than 1 inch in diameter.	A	No elderberry shrubs occur in the project's action area.
Lepidurus packardi	Vernal pool tadpole shrimp	FE[1], SJMSCP	Found in a variety of natural, and artificial, seasonally ponded habitat types including: vernal pools, swales, ephemeral drainages, stock ponds, reservoirs, ditches, backhoe pits, and ruts caused by vehicular activities. Within the Sacramento Valley.	A	No vernal pools, or other suitable aquatic habitat occur in the project's action area.
Plants					
Amsinckia grandiflora	Large-flowered fiddleneck	FE[1], SE, CNPS 1B, SJMSCP	Cismontane woodland and valley and foothill grasslands (900 – 1800 ft). Blooms April to May.	A	The project's action area is not within the elevation range of large-flowered fiddleneck, and no cismontane woodland, valley, or foothill grasslands, occur within

Scientific Name	Common Name	Status	Habitat Requirements	Habitat Present/Absent	Rationale
					the project limits.
Castilleja campestris ssp. *succulenta*	Succulent owl's clover	FT[1], SE, CNPS 1B, SJMSCP	Vernal pools in valley and foothill grasslands (80 - 2460 ft). Blooms April to May.	A	No vernal pools, or other suitable aquatic habitat, occur within the project's action areal.

Legend

A= Absent. No habitat present and no further work needed.	
HP= Habitat Present. Habitat is, or may be present. The species may be present.	
P= Present. Species is present.	
CH= Project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.	
Federal	**CNPS**
FE = Endangered ([1] = USFWS; [2] = NOAA Fisheries jurisdiction)	CNPS 1A = Presumed extinct in California
FT = Threatened ([1] = USFWS; [2] = NOAA Fisheries jurisdiction)	CNPS 1B = Rare or Endangered in California and elsewhere
FPE = Proposed Endangered ([1] = USFWS; [2] = NOAA Fisheries jurisdiction)	CNPS 2 = Rare or Endangered in California, more common elsewhere
FPT = Proposed Threatened ([1] = USFWS; [2] = NOAA Fisheries jurisdiction)	
FC = Candidate ([1] = USFWS; [2] = NOAA Fisheries jurisdiction)	**San Joaquin County Multi-Species Conservation Plan**
	SJMSCP = Covered Species
State	
SE = Endangered	
ST = Threatened	
SR = Rare	
CSC = Species of Special Concern	

Federally Listed Species

As indicated in Table 3.9.1, three federally listed species known from San Joaquin County may occur in the project's action area and be affected by the project. Additional discussion of these species is provided below.

Giant Garter Snake. The giant garter snake (*Thamnophis gigas*) is a federal and State listed threatened species. This species' current range extends from Fresno County, north through the Central Valley to near Gridley, Butte County. The USFWS recognizes 13 separate populations of giant garter snake, the closest being Caldoni Marsh, also known as the White Slough Wildlife Area, located about four miles north of Atlas Tract (USFWS 1999). The giant garter snake inhabits areas in the vicinity of freshwater marshes, ponds, and slow moving streams with dense aquatic vegetation, and prefers water depths of at least one foot. Still or slow moving waters, with pools deeper than approximately 30 inches containing emergent vegetation and overhanging tree canopy are considered optimal habitat for this species. Adjacent upland habitat above flood elevations is also important. The giant garter snake occupies small mammal burrows and other soil crevices above prevailing flood elevations during its winter dormancy period.

Giant garter snakes have adapted to a variety of agricultural wetlands including irrigation and drainage canals, ricelands, ponds and similar areas in addition to naturally occurring marshes, sloughs, and low gradient streams. Essential habitat elements include adequate water during the snake's active period, including some permanent water; emergent herbaceous wetland vegetation such as cattails and bulrush, upland habitat with grassy banks for basking; and higher elevation upland habitats for cover and escape from flooding during winter.

The giant garter snake is diurnal, and often basks on emergent vegetation such as cattails and tules. At night, this species retreats to crevices or holes, especially mammal burrows. Diet includes small fish, tadpoles, and frogs. The giant garter snake breeds in the early spring, and gives birth to live young between mid-July and early September.
There have been few recent sightings of giant garter snakes in the San Joaquin Valley. A 1995 report on the status of giant garter snakes in the San Joaquin Valley suggests that the numbers of snakes has declined more dramatically than the loss of suitable habitat (Hansen 1996). Possible reasons for this decline include an interrupted water supply, poor water quality, and contaminants.

Based on personal communications (E. Hansen, M. Cassazza and D. Muth), and literature reviews (CNDDB), the most recent observations of giant garter snakes occurred in the late 1980's at the White Slough Wildlife Area. The Draft Recovery Plan for the Giant Garter Snake (USFWS 1999) notes these same occurrences. Per the SJMSCP (2000), known occupied habitat for the giant garter snake includes the area west of I-5 on Terminous Tract, Shin Kee Tract, White Slough Wildlife Area, and Rio Blanco Tract. The levee project's action area is within potential giant garter snake habitat as described in the SJMSCP (2000).

There is no aquatic habitat for giant garter snakes on the project site and the levee alteration project will have no direct effect on aquatic habitat. Mosher Slough and Bear Creek provide suitable aquatic habitat for giant garter snakes; interior drainage ditches on Atlas Tract also provide marginal habitat for this species.

*Delta Smelt***.** The Delta smelt (*Hypomesus transpacificus*) is a federal and State threatened species. Delta smelt are endemic to the upper Sacramento-San Joaquin estuary but this species has been found as far upstream in the Sacramento River as the mouth of the Feather River, and as far as Mossdale on the San Joaquin River (SJMSCP 2000). Adults tend to congregate in the mixing zone, where incoming salt water mixes with outgoing fresh water. The species has a wide tolerance for salinity levels, which vary annually in the Delta depending on freshwater inflows. They tend to concentrate in areas with salinities around 2 parts per thousand. Following winters with high precipitation, their distribution is normally very broad.

Spawning occurs in fresh water, primarily in sloughs and shallow edge waters of channels in the upper Delta. Known spawning areas include Beaver, Hog, and Sycamore Sloughs, north of SR 12 (USFWS 1995). Sycamore Slough, the southernmost of these sloughs, is about eight miles north of Atlas Tract. Spawning occurs from January to July in most years, in dead-end sloughs, in shore areas of the delta, or river edges. Spawning occurs in the water column above vegetation or in open water above sandy or rocky substrates. Young smelt are flushed by currents to downstream nursery areas.

Delta smelt populations fluctuate widely based on winter precipitation and other factors. The primary threats to the species are related to modification of habitat due to diversions of inflowing fresh water and associated entrainment losses.

Bear Creek and Mosher Slough provide suitable habitat for Delta smelt. The CNDDB does not contain any records of this species within 10 miles of the project site; however, since suitable habitat for Delta smelt is present, this species could occur in the project area.

The project's action area is located at the eastern extent of critical habitat for delta smelt.

Central Valley Steelhead/Critical Habitat and Central Valley Fall-Run Chinook Salmon Essential Fish Habitat. The levee alteration project is located within the range of the Central Valley steelhead (*Oncorhynchus mykiss*) Distinct Population Segment (DPS), and within designated critical habitat for Central Valley steelhead. The project site is also within the range of the Central Valley fall/late fall-run ESU of chinook salmon (*Oncorhynchus tshawytscha*).

The Central Valley steelhead is a federally listed threatened species. The Primary Constituent Elements of critical habitat include those physical or biological features that are essential to the conservation of a given species. These elements include: space for individual and population growth and for normal behavior; nutritional or physiological requirements (i.e., food, water, air, light, and minerals); cover or shelter; breeding and offspring rearing sites; and habitats that are protected from disturbance or are representative of the historical, geographical, and ecological distribution of a species (Federal Register 70FR52488, September 2, 2005).

Central Valley fall/late fall-run chinook salmon is a California species of concern, and impacts to Essential Fish Habitat (EFH) for Pacific salmon species are regulated under the MSA.

Steelhead and salmon are anadromous fish that spend part of their life cycle in freshwater and part in salt water. These species spawn in small, freshwater streams where the young remain from one to several years before migrating to the ocean to feed and grow. Adults return to their natal streams to spawn and complete their life cycle. Steelhead and salmon require clean, cold, well-oxygenated streams for spawning. Spawning streams must have a substrate of gravel or small cobble to provide safe incubation sites for the eggs. Both species occur throughout portions of the Sacramento and San Joaquin Rivers and their tributaries.

The reaches of Bear Creek and Moser Slough that flow through the project's action area provide marginally suitable migration habitat for Central Valley steelhead and Central Valley fall-run chinook salmon; these areas are not suitable natal rearing or spawning habitat for these species. Per discussions with Jeff Stuart of NOAA Fisheries, fish count data from Bear Creek upstream of the project area approximately 5.5 miles (near Cannery Park) showed warm water fish species (e.g., bass, etc.) at the upstream location, but no salmonids (J. Stuart pers. comm.). Furthermore, due to development along Bear Creek and Moser Slough adjacent to and upstream of the project area, it is expected that the water temperatures and water quality in the vicinity of the project area are suboptimal for steelhead or salmon. Consequently, it is unlikely that Central Valley steelhead or Central Valley fall-run chinook salmon occur in these sloughs except, possibly, during winter migration when flow levels are high and water temperatures are lower.

The project is located within designated critical habitat for Central Valley steelhead (Unit 25 – San Joaquin Delta Subbasin, Federal Register 2005). The project is also located within EFH for Central Valley fall-run chinook salmon (Federal Register, 2002).

Special Status Plant Species

The following special status plant species have the potential to occur in the project vicinity.

Suisun Marsh Aster. The Suisun Marsh aster (*Aster lentus*) is a State Species of Concern and is listed by the California Native Plant Society (CNPS) as 1B species (rare or endangered in California and elsewhere). This perennial plant occurs in dense vegetation and areas of stabilized substrate and is found on the water's edge in places where water is brackish and there is some degree of tidal influence. There is no suitable habitat for this species on the project site.

Bristly Sedge. Bristly sedge (*Carex comosa*) is a CNPS List 2 species; it has no State or federal status. It occurs in marshes and swamps, lake margins, and other wet places. There is no suitable habitat for this species on the project site.

Delta Button Celery. Delta button celery (*Eryngium racomosum*) is State listed as endangered and is a CNPS 1B species; it has no federal status. Delta button celery occurs in seasonally inundated areas on clay soils. There is no suitable habitat for this species on the project site.

Rose Mallow. Rose mallow (*Hibiscus lasiocarpus*) is a CNPS List 2 species; it has no State or federal status. This perennial herb is distributed throughout the Central Valley in marshes, swamplands, and along wet banks, frequently occurring among tules on the delta islands of the San Joaquin and Sacramento Rivers. There is no suitable habitat for this species on the project site.

Delta Tule Pea. Delta tule-pea (*Lathyrus jepsonii* spp. *jepsonii*) is a State Species of Concern and a CNPS Listed 1B species; it has no federal status. The Delta tule-pea is a pink-to-lavender flowered perennial vine that grows in tangled masses among tules and in marsh borders with willow and dogwood. There is no suitable habitat for this species on the project site.

Mason's Lilaeopsis. Mason's lilaeopsis (*Liaeopsis masonii*) is a State Species of Concern and a CNPS List 1B species; it has no federal status. Mason's lilaeopsis grows on the exposed mud banks of instream islands and occasionally at the base of earthen levees. There is no suitable habitat for this species on the project site.

Delta Mudwort. Delta mudwort (*Limosella subulata*) is listed as a CNPS 1B species; it has no State or federal status. Delta mudwort is closely associated with muddy or sandy intertidal flats and banks in brackish marsh or in freshwater marsh, and riparian scrub at low elevations. There is no suitable habitat for this species on the project site.

Eelgrass Pondweed. Eelgrass pondweed (*Potamogeton zosteriformis*) is a CNPS List 2 species; it has no State or federal status. Eelgrass pondweed is found in marshes, swamps, and slow moving streams. There is no suitable habitat for this species on the project site.

Sanford's Arrowhead. Sanford's arrowhead (*Sagittara Sanford*) is a perennial, emergency, plant listed as a CNPS 1B species; it has no State or federal status. Sanford's arrowhead occurs in shallow, standing, freshwater, and sluggish waterways in marshes, swamps, ponds, vernal pools, and similar habitats. There is no suitable habitat for this species on the project site.

Marsh Skullcap. Marsh skullcap (*Scutellaria galericulata*) is a CNPS List 2 species; it has no State or federal status. This species occurs in marshes, swamps, and other wet places. There is no suitable habitat for this species on the project site.

Blue Skullcap. Blue skullcap (*Scutellaria lateriflora*) is a CNPS List 2 species; it has no State or federal status. Habitat for blue skullcap is mesic meadows, marshes, and swamps. There is no suitable habitat for this species on the project site.

Special Status Wildlife Species

The following special status wildlife species have the potential to occur in the project vicinity.

Western Burrowing Owl. The western burrowing owl (*Athene cunicularia*) is a State and BCC species of concern. Burrowing owls occur in the warmer valleys, open, dry grasslands, deserts, and scrublands associated with agriculture and urban areas that support populations of California ground squirrels. Burrowing owls nest below ground, utilizing abandoned burrows of other species (most commonly ground squirrel burrows) and feed on insects and small mammals.

The proposed project site has historically been habitat for burrowing owls. Although no owls have been observed in recent years, burrows are present along the levee.

Swainson's Hawk. The Swainson's hawk (*Buteo swainsoni*) is listed as threatened by the State and BCC, and is fully protected under the MBTA, and is listed by the USFWS as a Migratory Nongame Bird of Management Concern; it has no federal status. Swainson's hawks are long distance migrants, wintering primarily in South America, and returning north of breed. In California, Swainson's hawks occur in the northeastern portion of the state, in the Great Basin Province, and in the Central Valley. They return to the Central Valley in mid-March, and begin migrating south in August. Nests are built in the tops of large trees, primarily those associated with riparian habitats. They are known to forage up to 10 miles from their nest sites.

There are several nesting records for Swainson's hawks form the vicinity of the project site and the agricultural fields of the Atlas Tract provide suitable foraging habitat for Swainson's hawk. However, the project site is highly disturbed and does not provide either nesting or foraging habitat.

Tricolored Blackbird. The tricolored blackbird (*Agelaius tricolor*) is a State and BCC species of concern. Tricolored blackbirds are highly colonial and nomadic, and are largely endemic to the lowlands of California. Breeding is highly synchronized, with most pairs in the colony initiating nesting within a few days of each other. The synchronization and colonial breeding may have evolved as an adaptation to a rapidly changing environment where the locations of secure nesting habitat and food supplies were likely to change each year. They prefer to nest in freshwater marshes with dense growths of herbaceous vegetation such as mustard and thistle. They are also known to nest in blackberry thickets.

Potential breeding habitat (e.g. blackberry thickets) exists along the south bank of Bear Creek; tricolored blackbirds could potentially occur adjacent to Bear Creek. The nearest occurrence documented in California Natural Diversity Database (CNDDB) is located in the Stockton West Quadrangle (1972). No tricolored blackbirds or signs of nesting activity in the blackberries were observed during site surveys.

White-tailed Kite. The white-tailed kite (*Elanus leucurus*) is fully protected under the California Fish and Game Code and the federal MBTA. This raptor species uses scattered trees for breeding and open grasslands and marshes for foraging. Like the Swainson's hawk, the agricultural fields on the Atlas tract provide suitable foraging habitat for white tailed kites and this species could forage there. There are no suitable nest trees or foraging habitat on the project site.

Northern Harrier. The Northern harrier (*Circus cyaneus*) is a state species of special concern. This raptor species is also protected under Fish and Game Code and the MBTA. Northern harriers are adapted to open grassland and marsh habitats, where they forage for small mammals and birds. They nest on the ground among weeds, cattails, and tall grasses in swampy or open grassland areas. Eggs are laid from mid-April to mid-May. The site does not provide suitable nesting habitat for northern harriers.

Western Pond Turtle. The western pond turtle (*Clemmys marmorata*), is a California species of concern, ranges from western Washington State south to northwestern Baja California. Pond turtles are an aquatic species, found in ponds, marshes, rivers, streams, and irrigation ditches that typically have rocky or muddy bottoms and are vegetated with aquatic vegetation. Eggs are laid at upland sites away from the water, from April through August. The slough channels at either end of the project site provide potential habitat for pond turtles. However, the project site does not contain suitable habitat for pond turtles.

Permanent Impacts

All Build Alternatives

The proposed SATLAP is not expected to have any permanent impacts to federally listed threatened or endangered species or other special status species occurring in the project's action area. The City of Stockton participates in the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). On May 31, 2001, the USFWS issued a federal fish and wildlife permit to be applied to all projects covered by the SJMSCP provisions.

The SATLAP is within the review area of the Atlas Tract/The Preserve development project, which has already undergone SJMSCP review and been issued Incidental Take Minimization Measures (ITMMs) pursuant to plan requirements (December 7, 2006). This process included project review by USFWS and addendum of the project to the Intra-Service Biological and Conference Opinion (August 18, 2006). As noted by the USFWS, the biological opinion issued for the SJMSCP remains valid, and the take of delta smelt and giant garter snake by the Atlas Tract/The Preserve development project has been authorized through the San Joaquin County's incidental take permit. The Atlas Tract/The Preserve development project was also reviewed by NMFS who issued a finding that the project was not likely to adversely affect Central Valley steelhead, Central Valley steelhead critical habitat, or Pacific salmon Essential Fish Habitat.

Potential permanent effects to federally listed and other special status species included in the SJMSCP program will be fully offset in accordance with plan provisions and project specific ITMMs. This includes payment of mitigation fees for loss of all habitats within the project footprint and provision of off-site mitigation at Shin Kee Tract for potential effects to giant garter snake and delta smelt.

The Atlas Tract/The Preserve development project was also reviewed by NMFS. On September 29, 2006, NMFS found that the project was not likely to adversely affect Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, North American green sturgeon, and Central Valley steelhead or designated critical habitat for these species.

As noted in the ESA Section 7 consultation, the proposed Atlas Tract/The Preserve development project site does not fall within the geographic boundaries for the Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook salmon Evolutionary Significant Units, or the Southern Distinct Population Segment (DPS) of North American green sturgeon, nor does it fall within the designated critical habitat for Sacramento winter-run Chinook salmon and Central Valley spring-run Chinook salmon. The project site is within the geographic boundaries and is designated critical habitat for Central Valley steelhead. However, NMFS was not aware of evidence that portions of Mosher Slough or Bear Creek in the project area are occupied by Central Valley steelhead and the existing habitat does not appear to support them. Because the effects of the proposed development project also are stormwater related and connected to downstream waters of the Delta, there are potential runoff impacts which could affect Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, and North American green sturgeon migrating and rearing in the Delta. Adverse impacts to salmonids and sturgeon are not expected due to the imposition of conservation measures incorporated into the project. These measures include adherence to an inwater work window, utilizing a stormwater treatment system with integrated wetland stormwater treatment and filtration, and implementing a Stormwater Pollution Prevention Plan incorporating Best Management Practices.

NMFS also found that the Atlas Tract/The Preserve development project activities would not adversely affect Pacific salmon Essential Fish Habitat. NMFS found that the project activities incorporated into the Atlas Tract project included conservation measures that will reduce adverse effects to EFH for Pacific Salmon pursuant to the Magnuson-Stevens Fishery Conservation and Management Act.

As the Atlas Tract/The Preserve development project includes an assessment of the lands that are proposed for the re-located the dry land levee, the above USFWS and NMFS consultations are considered directly relevant to the levee project. Therefore, the dry land levee project (proposed project) has been included in previous consultations for federally listed species and the results of the consultations apply.

Federally Listed Species

The giant garter snake requires several habitat components including: adequate water during the active season (early spring through late fall) to provide an adequate food source; emergent herbaceous wetland vegetation for cover and foraging; upland habitat for basking; and higher elevation upland habitat for cover and refugia. Although the sloughs at either end of the project site (Bear Creek and Mosher Slough) and nearby levees constitute potential habitat for giant garter snake, the levee slopes are steep and the levee face and interior drains and ditches are regularly cleared and maintained. There is no direct connection between the interior drains of the Atlas Tract and slough channels. These factors limit the suitability of the project action area for giant garter snakes and reduce the likelihood of their presence.

Delta smelt and Central valley steelhead have low likelihood of occurrence in the project action area due to marginal habitat and no work is proposed in the habitat that is available. No direct effects to these species will occur.

The SATLAP will have no permanent direct or indirect impacts to the giant garter snake, delta smelt, delta smelt critical habitat, Central Valley steelhead, Central Valley steelhead critical habitat, or Pacific salmon Essential Fish Habitat with incorporation of the SJMSCP ITMMs described below.

Special Status Plants

Special status plant species in the vicinity of the project are wetland-associated species that would be limited to slough channels surrounding the project site, or in some cases, the interior toe drains associated with the levees surrounding the Atlas Tract and the interior drainage ditches within Atlas Tract. Appropriately-timed surveys of these areas performed during spring and summer 2005 failed to detect any of these species. The disturbed nature of the project area further reduces the potential for special status plants to occur. These plants are all covered under the SJMSCP program. No additional mitigation is required.

Special Status Wildlife

Of the special status wildlife species listed above, only burrowing owls may potentially be impacted by the project. Although no owls have been observed in recent years, burrows are present along the levees and impacts to this species could occur if owls are present during project construction. Direct take of nesting burrowing owls would be in violation of the Fish and Game Code and Migratory Bird Treaty Act. Mitigation measures (see below) for protection of nesting burrowing owls are required for all roadway alternatives. A preconstruction survey will be required to determine if burrowing owls are present at the project site. Loss of foraging habitat for burrowing owls and other special status wildlife species that may occur in the project area is addressed through provisions of the SJMSCP.

Temporary Impacts

All Build Alternatives
The proposed SATLAP will not result in any temporary construction related impacts to water quality, and associated indirect impacts to the giant garter snake, delta smelt, delta smelt critical habitat, Central Valley steelhead, Central Valley steelhead critical habitat, or Pacific salmon Essential Fish Habitat with incorporation of the SJMSCP ITMMs described below.

The SATLAP may temporarily disturb burrowing owls if they are in the project vicinity during construction activities. Mitigation measures for burrowing owls (see below) are required for all roadway alternatives.

Mitigation Measures

All Build Alternatives

Mitigation TE-1: Prior to initiating reconstruction of the levee, the City will participate in the SJMSCP program, including payment of appropriate mitigation fees and additional mitigation measures placed on the project through the SJMSCP..

Mitigation TE-2: Giant Garter Snake

1. The project shall implement the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) conservation strategy, which includes payment of appropriate fees to San Joaquin Council of Governments (SJCOG) for conversion of undeveloped lands and implementation of the Incidental Take Minimization Measures for giant garter snake, as described below. Documentation of fee payment shall be provided to the USFWS prior to the start of construction.

Per the SJMSCP, the following measures are required in areas with potential giant garter snake habitat.

2. Construction shall occur during the active period for the snake, between May 1 and October 1. Between October 2 and April 30 contact the Service's Sacramento Fish and Wildlife Office to determine if additional measures are necessary to minimize and avoid take.
3. Limit vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat to the minimal area necessary.
4. Confine the movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat to existing roadways to minimize habitat disturbance.
5. Prior to ground disturbance, all on-site construction personnel shall be given instruction regarding the presence of SJMSCP Covered Species and the importance of avoiding impacts to these species and their habitats.
6. In areas where wetlands, irrigation ditches, marsh areas or other potential giant garter snake habitats are being retained on the site:
    a. Install temporary fencing at the edge of the construction area and the adjacent wetland, marsh, or ditch;
    b. Restrict working areas, spoils and equipment storage and other project activities to areas outside of marshes, wetlands and ditches; and
    c. Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents.
7. If on-site wetlands, irrigation ditches, marshes, etc., are being relocated in the vicinity: the newly created aquatic habitat shall be created and filled with water prior to dewatering and destroying the pre-existing aquatic habitat. In addition, non-predatory fish species that exist in the aquatic habitat and which are to be relocated shall be seined and transported to the new aquatic habitat as the old site is dewatered.
8. If wetlands, irrigation ditches, marshes, etc., shall not be relocated in the vicinity, then the aquatic habitat shall be dewatered at least two weeks prior to commencing construction.
9. Pre-construction surveys for the giant garter snake (conducted after completion of environmental reviews and prior to ground disturbance) shall occur within 24 hours of ground disturbance.
10. Other provisions of the *USFWS Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat* shall be implemented (excluding programmatic mitigation ratios which are superceded by the SJMSCP's mitigation ratios).
11. Survey of the project area shall be repeated if a lapse in construction activity of two weeks or greater has occurred. If a snake is encountered during construction, activities shall cease until appropriate corrective measures have been completed or it has been determined that the snake shall not be harmed. Report any sightings and any incidental take to the Service immediately by telephone at (916) 414-6600.
12. Following project completion, all areas temporarily disturbed during construction shall be restored following the "Guidelines for Restoration and/or Replacement of Giant Garter Snake Habitat" outlined below.
    a. The disturbed area shall be regraded to its preexisting contour and ripped, if necessary, to decompact the soil.

b. The area shall be hydroseeded. Hydroseed mix shall contain at least 20-40 percent native grass seeds. Some acceptable native grasses include annual fescue (*Vulpia* spp.), California brome (*Bromus carinatus*), blue wildrye (*Elymus glaucus*), and needle grass (*Nassella* spp.). The seed mix shall also contain 2-10 percent native forb seeds, five percent rose clover (*Trifolium hirtum*), and five percent alfalfa (*Medicago sativa*). Approximately 40-68 percent of the mixture may be non-aggressive European annual grasses, such as wild oats (*Avena sativa*), wheat (*Triticum* sp.), and barley (*Hordeum vulgare*). Aggressive non-native grasses shall not be included in the seed mix. These grasses include perennial ryegrass (*Lolium perenne*), cheatgrass (*Bromus tectorum*), fescue (*Festuca* sp.), giant reed (*Arundo donax*), medusa-head (*Taeniatherum caput-medusae*), or Pampas grass (*Cortaderia selloana*). Endophyte-infected grasses shall not be included in the seed mix.

In addition to the above measures, the following avoidance and minimization measures shall also be implemented

13. All construction shall be conducted during daylight hours.
14. Measures consistent with the current Caltrans' Construction Site Best Management Practices (BMPs) Manual (including the Storm Water Pollution Prevention Plan [SWPPP] and Water Pollution Control Program [WPCP] Manuals [http://www.dot.ca.gov/hq/construc/Construction_Site_BMPs.pdf]) shall be implemented to minimize effects to giant garter snake (e.g., siltation, etc.) during construction.

Mitigation TE-3: Delta Smelt and Critical Habitat

1. The project shall implement the SJMSCP conservation strategy, which includes payment of appropriate fees to SJCOG for conversion of undeveloped lands and implementation of the Incidental Take Minimization Measures for delta smelt per Sections 5.2.4.30 SJMSCP Covered Fish and 5.2.4.31 Riparian Habitats and Other Non-Vernal Pool Wetlands of the SJMSCP. Documentation of fee payment shall be provided to the USFWS prior to the start of construction.
2. Measures consistent with the current Caltrans' Construction BMPs Manual (including the SWPPP and WPCP Manuals [http://www.dot.ca.gov/hq/construc/Construction_Site_BMPs.pdf]) shall be implemented to minimize water quality impacts (e.g., siltation, etc.) during construction.

Mitigation TE-4: Central Valley Steelhead, Critical Habitat, and Central Valley Fall-Run Chinook Salmon Essential Fish Habitat

1. Measures consistent with the current Caltrans' Construction BMPs Manual (including the SWPPP and WPCP Manuals [http://www.dot.ca.gov/hq/construc/Construction_Site_BMPs.pdf]) shall be implemented to minimize water quality impacts (e.g., siltation, etc.) during construction.

Mitigation TE-5: The following mitigation measures are consistent with the SJMSCP Incidental Take Minimization Measures for burrowing owl and the provisions of the MBTA:

- Prior to issuance of a grading permit, the project proponent shall implement the SJMSCP conservation strategy.
- No more than 30 days prior to any ground disturbing activities, a qualified biologist shall conduct surveys for burrowing owls. If ground disturbing activities are delayed or suspended for more than 30 days after the initial preconstruction surveys for burrowing owls, the site shall be resurveyed. All surveys shall be conducted in accordance with CDFG's Staff Report on Burrowing Owls (CDFG 1995).
- If the preconstruction surveys identify burrowing owls on the site during the non-breeding season (September 1 through January 31), burrowing owls occupying the project site shall be evicted from the project site by passive relocation as described in the CDFG's Staff Report on Burrowing Owls (CDFG 1995).
- If the preconstruction surveys identify burrowing owls on the site during the breeding season (February 1 through August 31), occupied burrows shall not be disturbed and shall be provided with a 250-foot protective buffer. The buffer shall be maintained until the SJMSCP Technical Advisory Committee (TAC), with the concurrence of CDFG representatives on the TAC, or a qualified biologist approved by CDFG, verifies through non-invasive means that either 1) the birds have not begun egg laying; or 2) the juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow(s) can be destroyed.

Findings

As noted by the USFWS, and the take of delta smelt and giant garter snake by the Atlas Tract/The Preserve development project has been authorized through the San Joaquin County's incidental take permit. According to NMFS, the project is not likely to adversely affect Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, North American green sturgeon, and Central Valley steelhead or designated critical habitat for these species.

3.10 HISTORIC AND ARCHAEOLOGICAL PRESERVATION

Affected Environment

Cultural resources studies were prepared that address the effects of the SATLAP and Trinity Parkway roadway development. A Cultural and Paleontological Resources Study (August 2005) and a Geoarchaeological Study (April 2008) were completed for the project. These documents were utilized by the Corps of Engineers and the State Historic Preservation Office in responding to the Section 106 clearance process, which was completed on June 25, 2008. The documents are contained on the CD located in a pocket at the rear of this document and available by request.

Cultural Setting

Prehistory. The Paleo-Archaic-Emergent cultural sequence developed by Frederickson (1974) is commonly used to interpret the prehistoric occupation of Central California. The sequence is broken into three broad periods: the Paleoindian Period (10,000-6000 B.C.); the three-staged Archaic Period, consisting of the Lower Archaic (6000-3000 B.C.), Middle Archaic (3000-1000 B.C.), and Upper Archaic (1000 B.C.-A.D. 500); and the Emergent Period (A.D. 500-1800).

The Paleo Period began with the first entry of people into California. These people probably subsisted mainly on big game, minimally processed plant foods, and had no trade networks. The Archaic period is characterized by increased use of plant foods, elaboration of burial and grave goods, and increasingly complex trade networks (Bennyhoff and Frederickson 1994, Moratto 1984). The Emergent Period is marked by the introduction of the bow and arrow, the ascendance of wealth-linked social status, and the elaboration and expansion of trade networks, signified in part by the appearance of clam disk bead money (Moratto 1984).

The San Joaquin Valley was probably settled by native Californians between 12,000 to 6,000 years ago. The San Joaquin Valley has had many population movements and waves of cultural influence from neighboring regions; it was probably first occupied at the end of the Pleistocene, approximately 11,500 to 7,500 years ago, as evidenced by core and flake tools (Moratto 1984:214-5). Hokan speakers may have been the early occupants of the San Joaquin Valley, eventually displaced by migrating Penutian speakers (ancestral Yokuts) coming from areas outside California. The Penutians most likely entered the San Joaquin Valley in several minor waves, slowly replacing the original Hokan speakers, causing them to migrate to the periphery of the valley (Elsasser 1978:41; Shipley 1978:81). By about A.D. 300-500, the Penutian settlement of the San Joaquin Valley was complete. At the time of European contact, the study area was within the territory of the Northern Valley Yokuts. The population of the 18th century Valley Yokuts is estimated at approximately 40,000, making them the largest ethnic group in precontact California (Moratto 1984:173).

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Ethnographically, the project area may have been the territory of the Plains Miwok or the Northern Valley Yokuts. According to Wallace (1978), the location belonged to the Plains Miwok; Levy (1978) depicts the location of the project area in Northern Valley Yokuts territory. Bennyhoff (1977) places the location of the project area on the boundary of the two groups. The ethnographic affiliation of this region is a subject of controversy (Wallace 1978:462).

Northern Valley Yokuts territory extended from a line midway between the Mokelumne River and the Calaveras River south to near where the San Joaquin River makes a big bend toward the east (Wallace 1978:462). The western limit has been identified as the eastern side of the Coast Range (Milliken 1994) while the eastern limit extended to the juncture of the San Joaquin Plain and the foothills of the Sierra Nevada (Wallace 1978:462, 466). Yokuts settlements were typically placed on low mounds near the banks of large watercourses like the San Joaquin River. This elevated position helped keep the inhabitants, their houses and possessions above the spring flood waters. The abundant riverine environment allowed a sedentary lifestyle and influenced succeeding generations to remain at the same sites (Wallace 1978:466).

Plains Miwok territory covered both banks of the Cosumnes and Mokelumne rivers, and included both banks of the Sacramento River from approximately Rio Vista in the south, reaching almost to Sacramento in the north (Levy 1978:398). The foothills of the Sierra formed the eastern boundary (Bennyhoff 1977:165). Linguistically, the Plains Miwok were part of the Eastern group of the two subdivisions of Miwokan speakers (Levy 1978:398, 399). Plains Miwok settlements were located along the banks of the Sacramento, Cosumnes, and San Joaquin rivers and their tributaries. Dwellings were circular thatched structure, with some underground structures belonging to wealthier individuals (Levy 1978:408-409).

Stockton History. Stockton found its start as a supplier of goods to the thousands of miners who flocked to the Sierra Nevada gold fields during the California Gold Rush of 1849. Captain Charles M. Weber recognized early that the city would become profitable as a supply center for gold miners and purchased the land that would become Stockton from William Gulnac in 1845. Originally known as Tuleberg, the town's name was changed by Weber to Stockton in 1849 in honor of Commodore Robert F. Stockton (Hoover et al. 1990:350).

With the opening of the southern mines, Stockton grew rapidly in importance and size, and soon became a flourishing trade center (Marschner 2000). Miners made their way to Stockton by boat up the San Joaquin River or over the Livermore Pass. Commerce soon grew and freighting and staging activities developed along with the cattle and agriculture industries. With the establishment of churches and schools, Stockton became a permanent settlement. In 1849, 1,000 people lived in Stockton. In 1850 Stockton was incorporated and also became the county seat (Hoover et al. 1990:350). In 1851, Stockton, which consisted primarily of tents and frame buildings, was nearly destroyed by fire. Subsequent fires in 1856 and 1862 resulted in the need for more permanent structures, and stone and brick establishments were built in the commercial district, including a new city hall that was erected in 1852 (Costello and Marvin 1999:13-14).

In the 1860s the city began making civic improvements that included road construction, street improvements, and sewer works in addition to more churches, schools, and three volunteer fire companies. By the mid 1860s residential neighborhoods were also being developed. In the 1880s and 1890s Stockton became more industrialized. Grain mills and warehouses were constructed, along with manufacturing plants and lumber yards, near the Stockton Channels. More residential housing was developed for the growing population (Costello and Marvin 1999:14-15).

Beginning in 1850 Stockton served as a river landing, with the paddle-wheel steamers the *Delta King* and the *Delta Queen* navigating the San Joaquin River from 1850 to 1938. The first inland seaport in California opened in Stockton in 1933 and soon Stockton was known for its boat building industry. Local shipyards were active during World War II filling government contracts; by 1943 fifty firms were supplying the wartime effort. The late 1940s saw a growth of residential and commercial areas to the north of Stockton and by the 1970s the population had almost quadrupled (Hillman and Covello 1985:5-9).

Today, with a population of 260,000, Stockton remains the focal point for the agribusiness of the San Joaquin Valley. The rich farmland of the San Joaquin/Sacramento River Delta supports varied agriculture, growing potatoes, corn, sunflowers, tomatoes, asparagus, and more recently, wine grapes. Stockton is a major transportation hub and a popular water recreation area that has over 1,000 miles of waterways for boating and water sports (City of Stockton 2003).

Delta History. In 1850, Congress passed the Swamp and Overflow Land Act which gave all states any unsold federal land that was either swamp or subject to overflowing. Under the act, states were to ensure that the lands would be drained, reclaimed, and used for agricultural purposes (Anonymous 1994:5). Delta ownership was passed from the federal government to the state, and by 1855, California had passed the Reclamation District Act providing for the sale of swamp and overflow lands. By 1871, almost all of the state's swampland had been sold to private interests (Thompson and Dutra 1983).

In the years following the Gold Rush, the economy of the Stockton area shifted from mining to agriculture. In the 1860s, the number of miners in the state dropped from 83,000 to 36,000 (US Army Corps of Engineers 1990:4). Many of the miners relocated to the Delta to become farmers (Cook n.d.:20). Large number of Chinese laborers became available in 1869 when the transcontinental railroad's Chinese labor force found themselves without work (Delta Protection Commission 1994:5). They made their way to the Delta where, working with simple hand tools, they built the first levees around a number of islands (Maniery and Syda 1989:19).

The earliest levee construction was not an organized or systematic effort. The Delta's first levee may have been constructed in 1849 on Grant Island; other sources indicate that the first levee was built on Merritt Island in 1853 (Delta Protection Commission 1994:5). Initial reclamation attempts took the form of shoe string levees: low mounds of sediment atop natural levees along rivers that only served to hold back tidal waters (Thompson 1982:9). Levees around the Delta's islands were built next; some were constructed of sediment and some were constructed of peat (Thompson 1982:12). Early levees were prone to failure, as evidenced by floods at the Webb Tract in 1872-3, Bacon Island in 1873, and Bouldin Island in 1874 (Maniery and Syda 1989:19). Levee construction improved in the late 1800s, with the invention of the clamshell dredger, hydraulic dredger, and steam driven dredger. Mechanical dredgers constructed levees using sediment deeper than the shallow peat used by human labor, resulting in stronger levees (Maniery and Syda 1989:21).

By 1880, levees had been constructed around almost all land in the Delta, and by 1930, all but a few areas were being farmed (Delta Protection Commission 1994:6; Frayer, Peters, and Pywell 1989:6). Since flooding in 1907, levee maintenance and improvement has been an ongoing process, with spoils from channel dredging being used to raise and widen the levees (Dillon 1982:92). Almost all of the Delta's flood control levees have been improved over the years (Thompson 2005).

The Delta now contains over 500,000 acres of reclaimed land, interconnected by 1,000 miles of natural and man-made watercourses (Delta Protection Commission 1995:1). Agriculture dominates the Delta's economy, with over 91 per cent of the Delta zoned for agriculture (California Department of Water Resources 1986:2). Water-based recreation in the form of fishing, boating, and water-skiing has come to occupy a large part of the Delta's economy (Delta Protection Commission 1995:1).

Legislative Context

National Register Significance Criteria. The National Register Bulletin, *How to Apply the National Register Criteria for Evaluation* (1989) states that:

> Preserving historic properties as important reflections of our American heritage became a national policy through passage of the Antiquities Act of 1906, the Historic Sites Act of 1935, and the National Historic Preservation Act of 1966, as amended…. The National Historic Preservation Act of 1966 authorized the Secretary to expand this recognition to properties of local and State significance in American history, architecture, archaeology, engineering, and culture, and are worthy of preservation. The National Register of Historic Places is the official list of the recognized properties, and is maintained and expanded by the National Park Service on behalf of the Secretary of the Interior [National Park Service 1998:1].

An historic property is any district, site, building, structure, or object listed in or eligible for listing in the National Register (Advisory Council on Historic Preservation 1989:1). The criteria for determining resource eligibility for National Register listing are defined at 36 CFR §60.4 and are as follows:

> ...the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b) that are associated with the lives of persons significant in our past; or
>
> c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d) that have yielded, or may be likely to yield, information important in prehistory or history.

The National Register Bulletin, *How to Apply the National Register Criteria for Evaluation* (1989), also states that in order for a property to qualify for the National Register, it must meet at least one of the National Register criteria for evaluation by:

- being associated with an important historic context *and*
- retaining historic integrity of those features necessary to convey its significance.

According to the National Park Service, "properties that have achieved significance within the past 50 years shall not be considered eligible" (National Park Service 1998:2).

California Environmental Quality Act (CEQA). The California Environmental Quality Act (CEQA) applies to all discretionary projects undertaken or approved by the state's public agencies (CCR Title 14 (3) §15002(a)). Under the provisions of the act, "A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment" (§15064.5(b)). CEQA defines a "historical resource" as a resource which is eligible for listing on the California Register, listed in a local register of historical resources (as defined at PRC 5020.1(k)), identified as significant in a historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, or determined to be a historical resource by a project's lead agency (§15064.5(a)). A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California . . .Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (§15064.5(a)(3)).

California Register Criteria. A cultural resource is evaluated under four criteria to determine its historical significance. These criteria require that the resource be significant at the local, state, or national level under one or more of the following:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance and the resource's evaluation, in order to achieve adequate distance from the topic to allow a scholarly perspective. Fifty years is used as a general estimate of the time needed to develop this perspective and permit a legitimate understanding of the resource's significance (CCR 4852 (d)(2)).

The California Register also requires that a resource possess integrity, which is defined as "the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance" (California Office of Historic Preservation 1999:2). To retain integrity, a resource should have its original location, design, setting, materials, workmanship, feeling, and association. Which of these factors are most important will depend on the particular criteria under which the resource is considered eligible for listing (California Office of Historic Preservation 1999).

Resources which are significant, meet the age guidelines, and possess integrity will generally be considered eligible for listing on the California Register.

Records Search

A records search (File #5750L) of the project area and a ¼-mile radius was conducted on May 11, 2005, by the Central California Information Center of the California Historical Resources Information System, California State University, Stanislaus, Turlock (CCIC). The CCIC, an affiliate of the State of California Office of Historic Preservation, is the official state repository of cultural resources records and reports for San Joaquin County.

No cultural resources have been recorded within the project area. P-39-004529, the existing levee, however, is in the northern end of the project area and was recorded and evaluated subsequent to the records search (Kaptain and Gerike 2005a, 2005b). The evaluation found the levee not eligible for listing in either register due to a lack of integrity.

Three cultural resources studies have been done which included the portion of the project area on the northern side of Mosher Slough (Napton 1987; Kaptain 2002; Kelley, Huster, and Matzen 2005). The existing levee was identified in the current study's project area (Kelley, Huster, and Matzen 2005). Neither of the other studies identified any cultural resources in the current project area.

The following cultural resources studies have been done adjacent to the project area: Napton (1978) and Werner (1987).

LSA reviewed the following cultural resource inventories:

- *California Inventory of Historic Resources* (California Department of Parks and Recreation 1976);
- *Five Views: An Ethnic Historic Sites Survey for California* (California Office of Historic Preservation 1988);
- *California Historical* Landmarks (California Office of Historic Preservation 1996);
- *California Points of Historical Interest* (California Office of Historic Preservation 1992); and
- *Directory of Properties in the Historic Property Data* File (California Office of Historic Preservation May 2, 2005) which includes the listings of the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.

These inventories list no cultural resources within or adjacent to the project area.

Background Research

LSA reviewed publications and maps for archaeological, historical, ethnographic, and environmental information about the project area and its vicinity.

Mosher Slough and its levees, and an unnamed watercourse and its levees, were identified in the project area on the USGS *Lodi South, Calif.*, 7.5-minute topographic quadrangle. These levees are part of the Delta levee system, listed in *Historic Engineering Landmarks of Sacramento and Northeastern California* as a significant civil engineering landmark (American Society of Civil Engineers). A third man-made watercourse is depicted on the 1910 *Castle* 15-minute topographic quadrangle, close to the southwest corner of the project.

Consultation with Interested Parties

On May 9, 2005, LSA sent a letter and maps depicting the project area to the Native American Heritage Commission (NAHC) in Sacramento requesting a review of their sacred lands file for any Native American cultural resources that might be affected by the proposed project. Debbie Pilas-Treadway, NAHC Environmental Specialist III, responded in a faxed letter dated May 13, 2005, that a review of the sacred lands file did not indicate the presence of Native American cultural resources "in the immediate project area."

On May 9, 2005, LSA sent a letter and maps depicting the project area to the Haggin Museum, asking if the museum had any concerns regarding the proposed project area. No response to the letter was received within three weeks and a follow-up telephone call was made. On June 1, 2005, LSA left a message on museum director Todd Ruhstaller's voice mail, requesting that he call LSA with any concerns. No response has been received to date.

On May 24, 2005, LSA sent a letter and maps depicting the project area to the San Joaquin County Historical Society, asking for any concerns regarding the proposed project area. No response to the letter was received within ten days and a follow-up telephone call was made. On June 3, 2005, LSA left a message on an answering machine for museum director Mike Bennett, requesting that he call LSA with any concerns. No response has been received to date.

Field Methods

LSA archaeologist Neal Kaptain did a pedestrian field survey of the project area on May 3, 2005. The pedestrian survey was conducted using 10-meter wide zigzag transects. Visibility of the ground's surface was excellent, consisting almost entirely of bare ground. The field survey was documented with maps, field notes, and photographs.

No cultural resources were observed within the project area during the field survey.

Permanent Impacts

All Build Alternatives

The study identified no cultural resources within the project area. One cultural resource, the existing levee, was identified immediately adjacent to the project area. *Historic Engineering Landmarks of Sacramento and Northeastern California* lists the Delta levee system as a significant civil engineering landmark. The existing levee, although important in the history of reclamation and agriculture in the Sacramento-San Joaquin Delta, has been extensively altered and no longer retains sufficient integrity to convey its historical significance and does not possess significant scientific or historical information and is therefore not eligible for listing on either the National or California Registers.

Temporary Impacts

All Build Alternatives

The study identified one cultural resource within or adjacent to the project area. However, this resource is not eligible for listing on either the National or California Registers. Therefore, the SATLAP will not temporarily impact cultural resources.

Mitigation Measures

All Build Alternatives

Mitigation CR-1: If deposits of prehistoric or historical archaeological materials are encountered during project activities, all work within 25 feet of the discovery should be redirected and a qualified archaeologist assesses the situation and provides recommendations. It is recommended that adverse effects to such resources be avoided by project activities. If such deposits cannot be avoided, they should be evaluated for their significance in accordance with the California Register of Historical Resources. If the deposits are not eligible, they will need to be avoided by adverse effects or such effects must be mitigated. Upon completion of the archaeological assessment, the archaeologist should prepare a report documenting methods and results, and provide recommendations for the treatment of the archaeological materials discovered. The report should be submitted to the project proponent, appropriate City of Stockton agencies, and the Central California Information Center.

Prehistoric materials can include flaked-stone tools (e.g., projectile points, knives, choppers) or obsidian, chert, or quartzite toolmaking debris; culturally darkened soil (i.e., midden soil often containing heat affected rock, ash, and charcoal, shellfish remains and cultural materials); and stone milling equipment (e.g., mortars, pestles, handstones). Historical materials might include wood, stone, or concrete footings, walls, and other structural remains; debris-filled wells or privies; and deposits of wood, metal, glass, ceramics, and other refuse.

Mitigation CR-2: If human remains are encountered, work within 25 feet of the discovery should be redirected and the County Coroner notified immediately. At the same time, an archaeologist should be contacted to assess the situation. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Upon completion of the assessment, the archaeologist should prepare a report documenting the methods and results, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report should be submitted to the City of Stockton and the Central California Information Center.

Findings

Implementation of the above measures will ensure that the proposed project's effects on cultural resources are not significant.

3.11 VISUAL RESOURCES

Affected Environment

The topography of the area is typical of the San Joaquin Valley with elevations around sea level or slightly above. This area is characterized by flat, featureless landforms, with the exception of the PLS that surround the Atlas Tract and the existing levee at the western edge of the project alignment. The project site is highly disturbed due to past grading for the roadway right-of-way.

The Twin Creeks Estates residential subdivision, just east of the project area, represents the only developed land use in the project area that is occupied. The subdivision is located to the east and a number of residences will be directly exposed to any improvements (i.e., levee re-alignment, Trinity Parkway extension, noise barrier) proposed in the project area.

The Atlas Tract, just west of the project area, is characterized by fallow agricultural land. The land has historically been used for dry land farming. Vegetation in the project area grows along the drainage canals that transect the project site.

In general, there are no aesthetic features, either natural or manmade, that are visually unique on the project site. The project site is not located within or near a scenic visa or near a state designated scenic highway.

Permanent Impacts

Alternative 1
Implementation of Alternative 1 would affect an unoccupied area of the existing visual character of the site and its surroundings. With the re-alignment and reconstruction of the levee, adjacent residents will continue to observe the levee within their viewframe, although at an additional distance (up to 300-feet) to the west. This change will actually result in an improved visual change due to the increased distance to the levee, and is not considered a visual impact.

Although not a direct consequence of the levee, the most prominent visual changes are associated with the proposed the extension of Trinity Parkway from Otto Drive to Mosher Slough. Visual elements would include the new roadway and a sound wall. The soundwall from the Bear Creek Bridge to Mosher Slough was previously approved by the City. These features, including elevated portions of Trinity Parkway would be visible to Twin Creek Estates residents who occupy residences adjacent to the proposed roadway extension.

Alternative 2
Like Alternative 1, implementation of Alternative 2 would place a new roadway within a largely undeveloped setting. Alternative 2 would not require realignment of the existing levee and therefore, the visual effects would remain unchanged relative to the SATLAP.

For indirect effects, visual changes are anticipated for the extension of Trinity Parkway and elevated ramps at Otto Drive in order to access the proposed Atlas Tract development. The roadway and sound wall, especially the elevated portion would be visible to Twin Creek Estates residents adjacent to the proposed roadway extension.

Alternative 3
Implementation of Alternative 3 would have the least visual impact of the SATLAP build alternatives. Because the existing levee would be removed, the viewframe for Twin Creeks Estates residents would be expanded to the west across Atlas Tract to the PLS.

With respect to the indirect effects, the proposed roadway improvements would not need to be elevated at the Trinity Parkway and Otto Drive intersection. Indirectly, the sound wall would be lower than with the other build alternatives and, therefore, would be less visually intrusive to adjacent residences. However, implementation of Alternative 3 would still place a roadway and sound wall within a largely undeveloped setting.

Alternative 4
Implementation of Alternative 4 would have the greatest visual impact of the build alternatives. Under Alternative 4, the existing levee would be expanded to the east to accommodate the entire roadway and sound wall would be elevated to the height of the existing dry land levee. Accordingly, the entire levee/roadway project and soundwalls would be visible to residences in the Twin Creeks Estates development. This change could represent a potentially adverse aesthetic effect.

All Build Alternatives
Although not required directly for the SATLAP, new streetlights would be installed along the extension of Trinity Parkway. The streetlights would be placed along the eastern edge of the roadway with the light source directed towards the center of the roadway. Shields would be placed at the rear of light source to prevent light from being emitted into the backyards of the adjacent residences.

Temporary Impacts

All Build Alternatives
Construction activities would be visible to those Twin Creeks Estates residences adjacent to the proposed SATLAP and Trinity Parkway extension. However, these visual impacts would be limited in duration and are, therefore, considered less than significant.

Mitigation Measures

All Build Alternatives

Mitigation AES-1: In conjunction with approval of the plans, specifications and estimates, subject to levee structural restrictions, the City shall require aesthetic landscape enhancement of engineering slope banks, and residual open space lands, as well as distinctive noise wall treatment. A landscape plan shall be prepared by a landscape architect that includes a planting palette for proposed landscape area, and a plan to enhance the noise wall surfaces. The landscape plan shall be approved by the Community Development Director.

Mitigation AES-2: In conjunction with approval of the plans, specifications and estimates, the City shall include a review of light standard placement along the roadway edge, and provision for light shields. The lighting plan shall prohibit light emissions from extending beyond the eastern right-of-way for proposed Trinity Parkway. The review is subject to approval by the City Community Development Director.

Findings

Implementation of the above measures will ensure that the project's effects on aesthetics are not adverse.

3.12 TRAFFIC/CIRCULATION

A traffic analysis was conducted for the proposed Atlas Tract (The Preserve) project adjacent to the proposed extension of Trinity Parkway. The Trinity Parkway extension is relevant to the proposed Atlas Tract project due to the relationship of the roadway to the proposed land development. Accordingly, the analysis is relevant to the proposed Trinity Parkway extension, and indirectly to the proposed SATLAP.

Affected Environment

Roadway System

The project site is located south of Bear Creek, and west of Interstate 5 (I-5) and the Twin Creeks Neighborhood. An extension of Otto Drive would bisect the project site. The roadways in the study area are described below and their locations in relation to the site are shown on Figure 3.12.1. The locations of the study intersections are also shown on Figure 3.12.1.

Interstate 5 (I-5) is a major north-south freeway that traverses the western United States, originating in southern California and continuing north towards Sacramento and beyond. I-5 runs through the western portion of the City of Stockton, east of the project site. Access to the site from I-5 is provided via an interchange at Hammer Lane and Eight Mile Road. Three mixed-flow lanes are provided in each direction on I-5 in the vicinity of the project site.

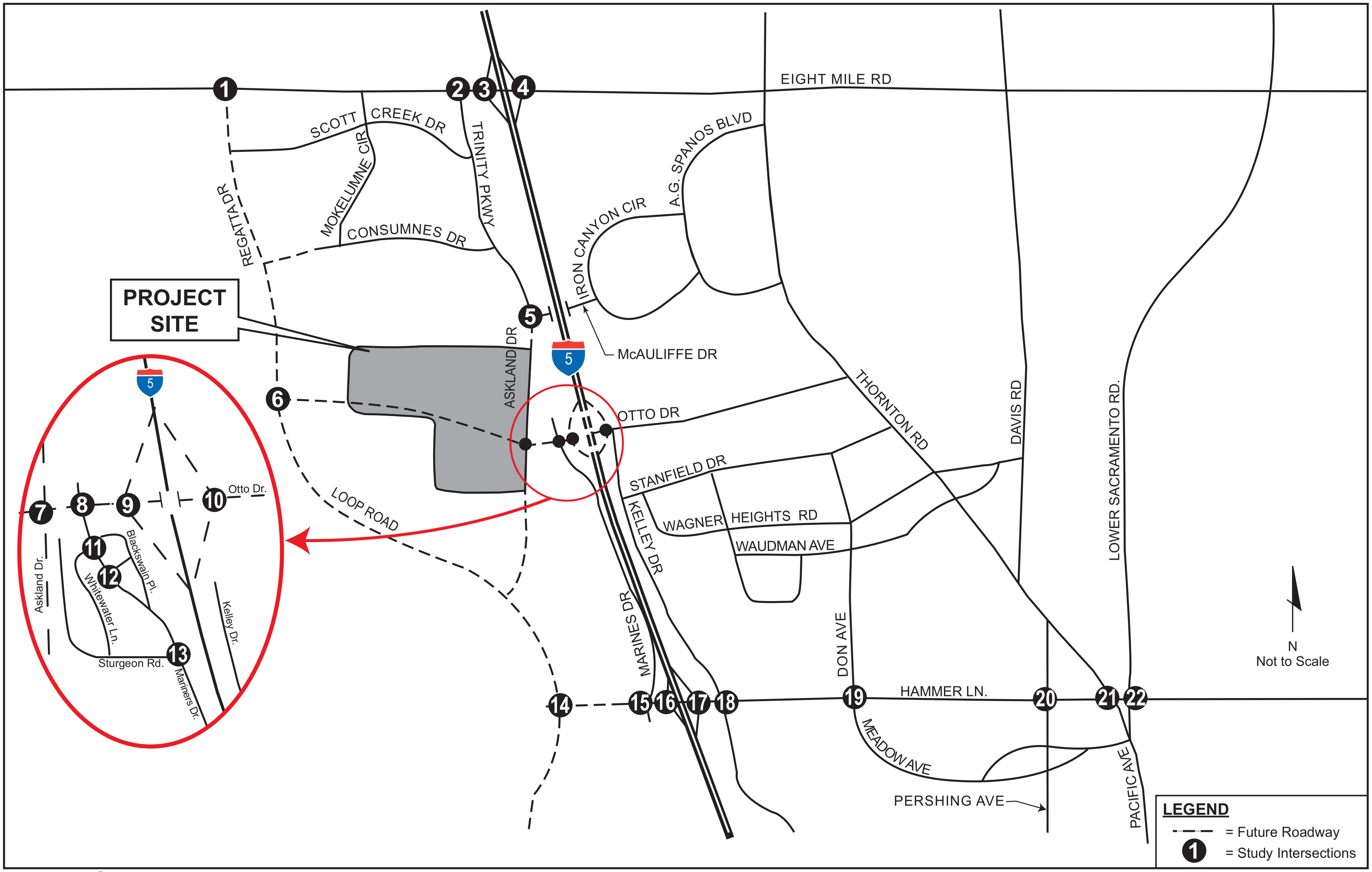
Hammer Lane is a four to six-lane, east-west arterial that extends from west of I-5 to east of SR 99. The posted speed limit ranges between 35 and 45 miles per hour (mph). Bike lanes are provided west of Kelley Drive and east of Thornton Road. Sidewalks are generally provided along Hammer Lane. This roadway serves commercial and residential development.

Mariners Drive is a two-lane north-south collector that serves residential development north and south of Hammer Lane. Upon completion of the Trinity Parkway/Trinity Parkway extension over Bear Creek, Mariners Drive, via Otto Drive and Trinity Parkway/Trinity Parkway would connect Eight Mile Road to Hammer Lane. Sidewalks are provided along both sides of Mariners Drive. South of Sturgeon Road, the speed limit on Mariners Drive is 40 mph. North of Sturgeon Road the speed limit is reduced to 35 mph.

Otto Drive is a two-lane east-west discontinuous collector street. East of I-5, Otto Drive connects Thornton Road to Bancroft Way. West of I-5, Otto Drive is closed to traffic. Otto Drive would connect Mariners Drive to Trinity Parkway upon completion of the Trinity Parkway/Trinity Parkway extension over Bear Creek. An interchange with I-5 is also planned at Otto Drive.

Trinity Parkway is a new four to six-lane, north-south roadway that connects McAuliffe Drive to Eight Mile Road on the west side of I-5. This roadway provides primary access to the commercial portion of the Spanos Park West project. Bicycle lanes and sidewalks are provided along the entire length of the roadway. This roadway will continue as *Trinity Parkway* south of Bear Creek.

McAuliffe Drive is an east-west two-lane roadway that connects Trinity Parkway to Iron Canyon Circle and the Spanos Park East residential neighborhood via an under crossing of I-5.



Stockton Atlas Tract Levee Alteration Project

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STUDY INTERSECTION LOCATIONS

FIGURE 3.12.1

Eight Mile Road is generally a two-lane, east-west rural roadway that extends from west of I-5 to east of State Route (SR) 99. Future plans call for up to eight lanes on Eight Mile Road east of I-5, and between two and eight lanes west of I-5. As this facility is improved, sidewalks and bicycle facilities are incorporated into the roadway cross section.

Thornton Road (County Road 8) is a two to four-lane, north-south major arterial that extends from north of Eight Mile Road to south of Hammer Lane, where it continues south as Pacific Avenue. Speed limits range from 35 to 45miles per hour (mph) along the roadway. Sidewalks are provided along improved sections of Thornton Road throughout the study area.

Lower Sacramento Road (County Road 10) is a two to four-lane, north-south rural road that extends from Eight Mile Road to Hammer Lane. No bicycle or pedestrian facilities are provided on this roadway in the study area. Speed limits range from 40 to 50 mph.

Kelley Drive is a two-lane north-south collector which extends from Plymouth Road to Salters Drive and intersects with Hammer Lane. The roadway serves mostly residential development except at the Hammer Lane/Kelley Drive intersection where there is commercial development. Sidewalks are provided throughout the length of the roadway and the posted speed limit is 30 mph.

Meadow Avenue/Don Avenue is a two-lane north-south roadway that connects Pershing Avenue to residential uses north of Hammer Lane. This roadway is called Meadow Avenue south of Hammer Lane and is a designated collector roadway. The roadway continues as Don Avenue, a local street, north of Hammer Lane. The posted speed limit on these facilities is 35 mph.

Pershing Avenue is a two to four-lane north-south arterial which extends from I-5 in the south near Downtown Stockton to Thornton Road in the north. Residential access is provided from Pershing Avenue in the study area with a posted speed limit of 35 mph.

Blackswain Place, Sturgeon Road and *Whitewater Lane* are residential streets that intersect Mariners Drive within the Twin Creeks neighborhood.

Regatta Drive and the *Shima Tract Roadway* are planned roadways that would be constructed as the surrounding area is developed. Regatta Drive is planned within the Westlake at Spanos Park West community and would be a north/south four lane facility with sidewalks and bicycle lanes. The roadway would intersect with Eight Mile Road in the north. To the south, it is planned to continue over the Pixley Slough to the Shima Tract. The Shima Tract Roadway would be the southern continuation of Regatta Drive, connecting to Trinity Parkway and Hammer Lane.

Key Intersections and Freeway Segments

Project impacts on the study area roadway facilities were determined by measuring the effect project traffic would have on operations of key intersections and freeway segments during the morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak periods. The following locations were selected for evaluation, as shown on Figure 3.12.1:

Study Intersections

1. Eight Mile Road/Regatta Drive
2. Eight Mile Road/Trinity Parkway
3. Eight Mile Road/I-5 Southbound Ramps
4. Eight Mile Road/I-5 Northbound Ramps
5. McAuliffe Drive/Trinity Parkway
6. Otto Drive/Shima Tract Roadway (for inclusion in the future analyses only)
7. Otto Drive/Trinity Parkway
8. Otto Drive/Mariners Drive
9. Otto Drive/I-5 Southbound Ramps (for inclusion in the future analyses only)
10. Otto Drive/I-5 Northbound Ramps (for inclusion in the future analyses only)
11. Mariners Drive/Whitewater Lane
12. Mariners Drive/Blackswain Place
13. Mariners Drive/Sturgeon Road
14. Hammer Lane/Trinity Parkway (for inclusion in the future analyses only)
15. Hammer Lane/Mariners Drive
16. Hammer Lane/I-5 Southbound Ramps
17. Hammer Lane/I-5 Northbound Ramps
18. Hammer Lane/Kelley Drive
19. Hammer Lane/Meadow Avenue/Don Avenue
20. Hammer Lane/Pershing Avenue
21. Hammer Lane/Thornton Road
22. Hammer Lane/Lower Sacramento Road

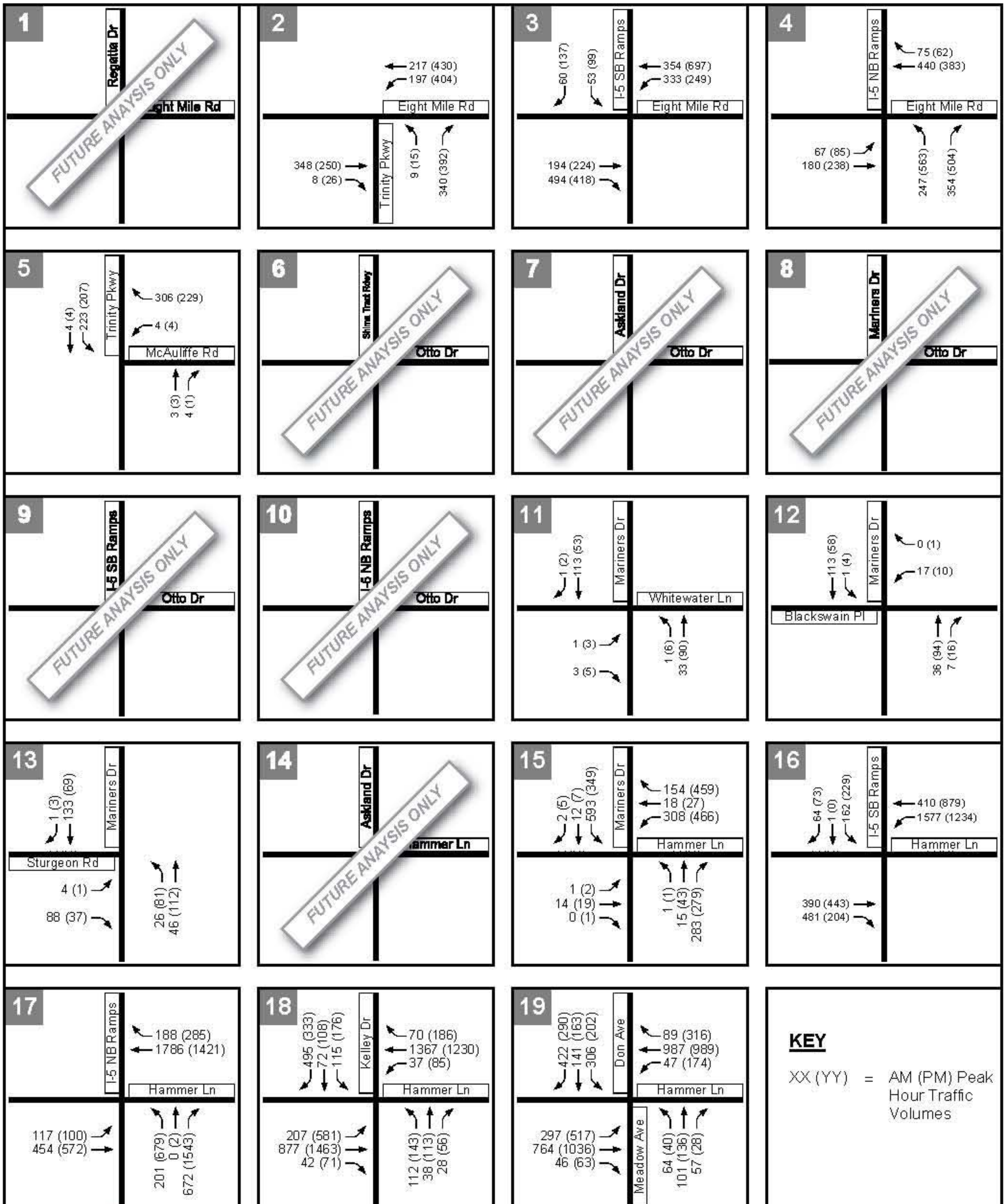
Freeway Segments[14]

1. Northbound I-5, North of Eight Mile Road
2. Southbound I-5, North of Eight Mile Road
3. Northbound I-5, Eight Mile Road to Hammer Lane
4. Southbound I-5, Eight Mile Road to Hammer Lane
5. Northbound I-5, South of Hammer Lane
6. Southbound I-5, South of Hammer Lane

Existing Traffic Volumes

Intersection turning movement counts were conducted in Spring 2005 at the study intersections during the AM (7:00 to 9:00 AM) and PM (4:00 to 6:00 PM) peak periods. These counts were conducted on clear days with area schools in normal session. For each count period, the single hour with the highest traffic volume was identified as the peak hour. The peak-hour volumes are represented on Figure 3.12.2a and 3.12.2b. The peak hour data is used for the intersection service level calculations. The existing lane configurations at each study intersection are shown on Figure 3.12.3a and 3.12.3b.

[14] Under future conditions the northbound and southbound freeway segments between the Otto Drive and Hammer Lane interchanges will be evaluated.



Stockton Atlas Tract Levee Alteration Project

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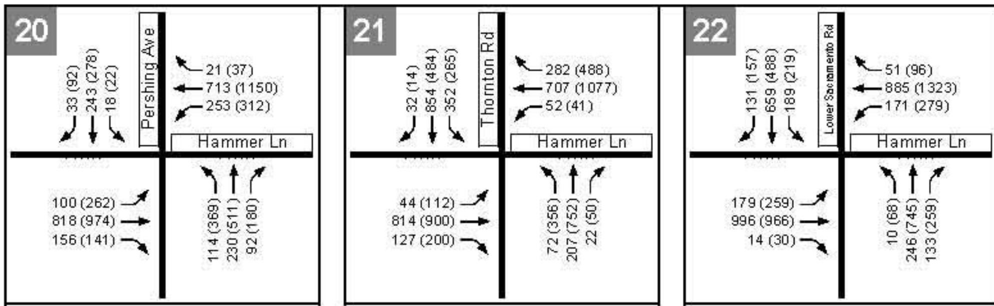
January 2006
WC05-2223

EXISTING 2005 PEAK HOUR TRAFFIC VOLUMES

FIGURE 3.12.2A



KEY

XX (YY) = AM (PM) Peak Hour Traffic Volumes

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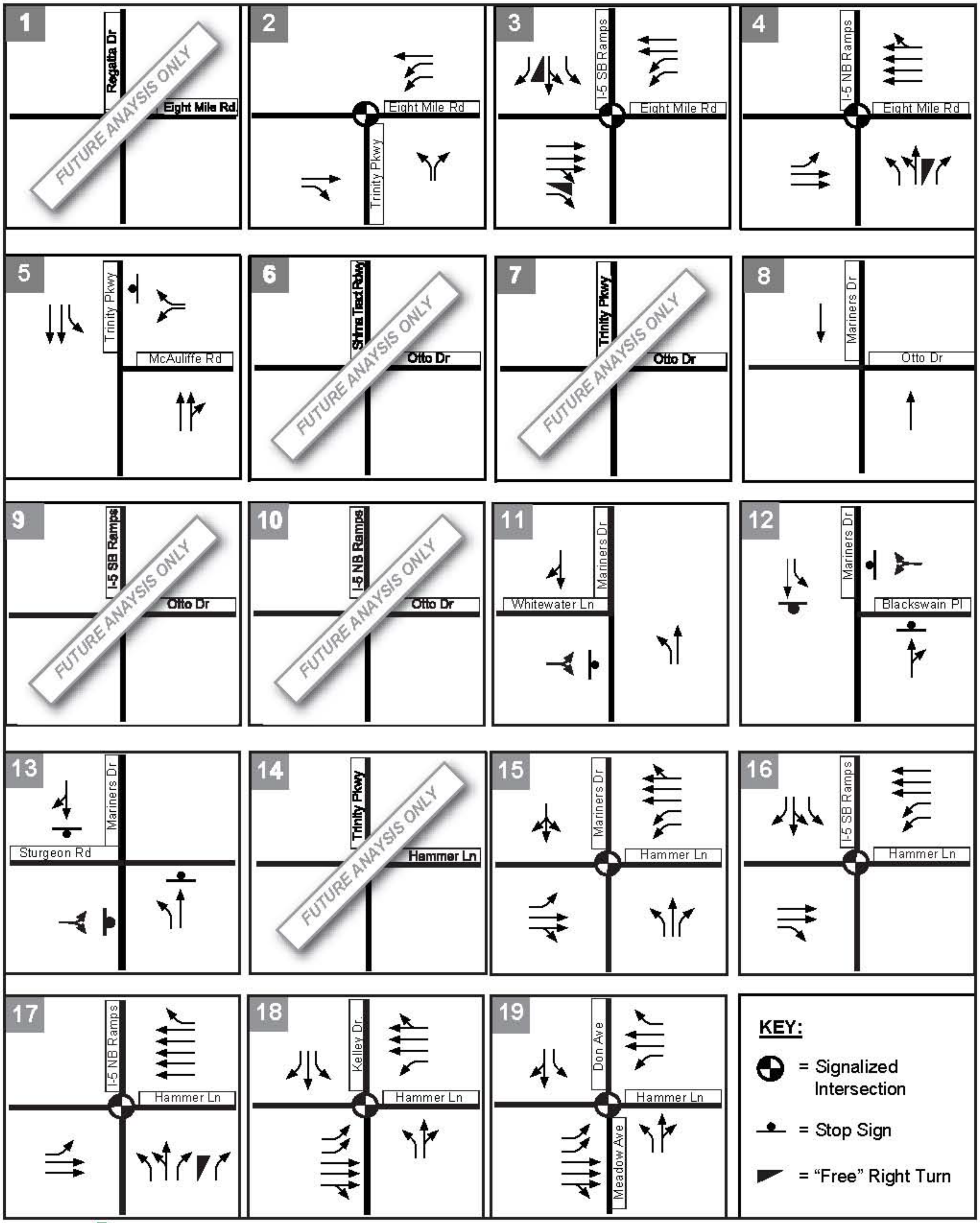
EXISTING 2005 PEAK HOUR TRAFFIC VOLUMES

FIGURE 3.12.2B



Stockton Atlas Tract Levee Alteration Project

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EXISTING LANE CONFIGURATIONS AND TRAFFIC CONTROL

March 2007
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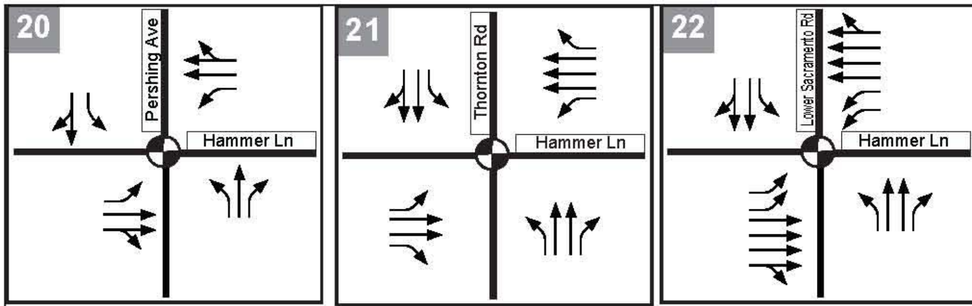
FIGURE 3.12.3A



KEY:

= Signalized Intersection

= "Free" Right Turn

Atlas Tract Levee Alteration Project

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EXISTING LANE CONFIGURATIONS AND TRAFFIC CONTROL

October 2006
WC05-2223

FIGURE 3.12.3B

Existing traffic volumes on I-5, both north and south of the Eight Mile Road interchange and south of the Hammer Lane interchange, were determined from several months of hourly traffic data provided by Caltrans. The traffic counts indicate that the predominant travel direction on I-5 is southbound during the AM peak hour and northbound during the PM peak hour.

Existing Intersection Operations

Existing intersection operations are described in terms of LOS and the results of the peak-hour traffic signal warrant analysis for unsignalized intersections.

Intersection Levels of Service: Existing operations were evaluated for the weekday AM and PM peak hours at the study intersections, as summarized in Table 3.12.1. All intersections currently operate at acceptable service levels (LOS D or better) during both the AM and PM peak hours except:

- Hammer Lane/Pershing Avenue – LOS E (AM peak hour) and LOS F (PM peak hour)

Vehicle queue spillback was also evaluated for the study intersections. Generally, vehicle queuing is generally contained within the provided storage space, except in the vicinity of the Hammer Lane/I-5 interchange, where vehicle queue spill does occur during the peak hours. The 95th percentile vehicle queue for some left-turn movements also exceeds available storage capacity at the Hammer Lane/Pershing Avenue intersection for periods during the peak hours.

Table 3.12.1: Existing (2005) Peak Hour Intersection Levels of Service

Intersection		Control[1]	Peak Hour	Delay [2, 3]	LOS
1.	Eight Mile Road/Regatta Drive	N/A	N/A	N/A	N/A
2.	Eight Mile Road/Trinity Parkway	Signal	AM PM	13 11	B B
3.	Eight Mile Road/I-5 Southbound Ramps	Signal	AM PM	9 5	A A
4.	Eight Mile Road/I-5 Northbound Ramps	Signal	AM PM	11 15	B B
5.	McAuliffe Drive/Trinity Parkway	SSSC	AM PM	9 (WB 10) 8 (WB 9)	A (A) A (A)
6.	Otto Drive/Shima Tract Roadway	N/A	N/A	N/A	N/A
7.	Otto Drive/Trinity Parkway	N/A	N/A	N/A	N/A
8.	Otto Drive/Mariners Drive	N/A	N/A	N/A	N/A
9.	Otto Drive/I-5 Southbound Ramps	N/A	N/A	N/A	N/A
10.	Otto Drive/I-5 Northbound Ramps	N/A	N/A	N/A	N/A
11.	Mariners Drive/Whitewater Lane	SSSC	AM PM	0 (EB 9) 1 (EB 9)	A (A) A (A)
12.	Mariners Drive/Blackswain Place	AWSC	AM PM	8 8	A A
13.	Mariners Drive/Sturgeon Road	AWSC	AM PM	8 8	A A
14.	Hammer Lane/Trinity Parkway	N/A	N/A	N/A	N/A
15.	Hammer Lane/Mariners Drive	Signal	AM PM	30 34	C C
16.	Hammer Lane/I-5 Southbound Ramps	Signal	AM PM	13 16	B B
17.	Hammer Lane/I-5 Northbound Ramps	Signal	AM PM	9 23	A C
18.	Hammer Lane/Kelley Drive	Signal	AM PM	32 45	C D
19.	Hammer Lane/Meadow Avenue/Don Avenue	Signal	AM PM	33 34	C C
20.	Hammer Lane/Pershing Avenue	Signal	AM PM	**63** **>80**	**E** **F**
21.	Hammer Lane/Thornton Road	Signal	AM PM	33 44	C D
22.	Hammer Lane/Lower Sacramento Road	Signal	AM PM	34 39	C D

Source: Fehr & Peers, 2007
Notes: N/A = Not Applicable. Intersection analysis under future conditions only. **Bold:** Indicates unacceptable intersection operations.
[1] Signal = Signalized intersection; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection.
[2] Signalized intersection average control delay (in seconds per vehicle) and LOS calculated using the 2000HCM) method.
[3] All-way stop controlled and side-street stop-controlled intersection LOS is based on average delay per vehicle (in seconds) according to the 2000 HCM. For the side-street stop controlled intersections, the worse case stop-controlled movement delays are presented in parenthesis.

Traffic Signal Warrant Analysis: The Peak hour volume signal warrant was investigated for the unsignalized study intersections. Table 3.12.2 shows that none of the unsignalized study intersections currently satisfy the peak hour traffic signal warrant.

Table 3.12.2: Existing (2005) Peak Hour Signal Warrant Analysis Results [1]

Intersection		Status
5.	McAuliffe Drive/Trinity Parkway	Not Met
11.	Mariners Drive/Whitewater Lane	Not Met
12.	Mariners Drive/Blackswain Place	Not Met
13.	Mariners Drive/Sturgeon Road	Not Met

Source: Fehr & Peers, 2007
Note: [1] Based on methods presented in Federal Highway Administration's MUTCD, 2003.

Accident Analysis: Collisions that occurred at the City controlled intersections within the study area between January 2001 and December 2006 were reviewed, based on data provided by City of Stockton staff. Caltrans provided data from January 2003 to December 2005 for their facilities, i.e. freeway mainline, Eight Mile Road interchange and Hammer Lane Interchange, in the vicinity of the Project site.

A total of 550 incidents were reported during this time period at the City intersections. Incidents are classified by causes and types, and the number of injuries and fatalities is shown for every intersection in the study area. Intersections where incidents did not occur during this time period are not shown in the table.

Of the 550 incidents, 145 (29%) were due to driving at an unsafe speed, 86 (17%) were due to violation of a vehicle's right-of-way by another vehicle, the cause of 85 (17%) incidents was unknown, and the cause of 75 (15%) were related to violation traffic signals or posted signs. The major incident types include: 173 (35%) broadsides, 170 (34%) rear-ends, 69 (14%) sideswipes and 45 (9%) vehicles hitting a fixed object. A total of 267 injuries and 1 fatality was reported for this period.

Of the existing City study intersections, the majority of incidents occurred at four intersections. The Hammer Lane/Kelley Drive intersection experienced a total of 145 incidents, amounting to 29% of the total reported incidents at study intersections. The Hammer Lane/Lower Sacramento Road intersection experienced 108 incidents (22% of the total). The Hammer Lane/Meadow Drive/Don Avenue intersection experienced 101 incidents (20% of the total). Finally, the Hammer Lane/Thornton Road intersection experienced 94 incidents (19% of the total).

At Caltrans facilities in the study area, 583 accidents were reported on the northbound mainline and 540 accidents were reported on the southbound mainline between State Route 12 and Charter Way. At the ramps (Eight Mile Road and Hammer Lane), a total of 60 accidents were reported. Thirteen fatalities occurred on the mainline, while no fatalities occurred at the ramps. As shown in I-5 in both directions has a lower overall accident rate than the statewide average for similar facilities. However, the fatality rate for the southbound direction does exceed the statewide average, as do several of the ramps including the southbound off-ramp at Hammer Lane, and both ramps at Eight Mile Road. The accident data for the Eight Mile Road interchange was collected prior to completion of interchange improvements.

Existing Freeway Operations

The I-5 freeway mainline segments north and south of Eight Mile Road and south of Hammer Lane were analyzed based on the peak hour volumes shown in Table 3.12.3 and the LOS criteria. The analysis results indicate that I-5 in the study area operates at LOS C or better during both peak hours.

Table 3.12.3: Existing (2005) I-5 Freeway Segment Levels of Service

Segment	Direction of Travel	AM Peak Hour			PM Peak Hour		
		Volume[1]	Density[2]	LOS[3]	Volume[1]	Density[2]	LOS[3]
North of Eight Mile Road	Northbound	1,600	9	A	1,900	10	A
North of Eight Mile Road	Southbound	2,500	14	B	2,900	16	B
South of Eight Mile Road	Northbound	1,930	11	A	2,780	15	B
South of Eight Mile Road	Southbound	3,140	17	B	3,250	18	B
South of Hammer Lane	Northbound	2,600	14	B	4,490	25	C
South of Hammer Lane	Southbound	4,610	26	C	4,160	23	C

Source: Fehr & Peers, 2007.
Notes: [1]Traffic volumes provided by Caltrans for the North Stockton I-5 Interchanges PSR.
[2] Density measured in passenger cars per mile per lane.
[3]Mainline segment LOS based on vehicle density, according to the Highway Capacity Manual (Transportation Research Board, 2000).

Regulatory Context

Policies of the City of Stockton General Plan (adopted and current update), California Environmental Quality Act (CEQA) guidelines, and the City of Stockton Transportation Impact Analysis Guidelines were used to develop significant project impact criteria.

City of Stockton 1990 General Plan Policy Document
The City of Stockton General Plan Policy Document (adopted January 22, 1990) was used to provide evaluation criteria for determining project impacts. Key statements from Section 3, Transportation, used for reference are summarized below.

Streets and Highways Goal 1.2 - The street system shall provide at least two (2) independent access routes for all major developed areas.

Streets and Highways Goal 1.3 - Significant trip generating land uses should be served by roadways adequate to provide vehicular access with a minimum of delay.

Streets and Highways Goal 1.6 - Traffic signals on arterial streets shall be synchronized to the extent possible to facilitate the flow of traffic and to minimize stops or delays.

Streets and Highways Goal 1.8 - Seek to improve freeway interchanges along both Route 99 and Interstate 5 to current design standards as required by the traffic demands of new development.

Streets and Highways Goal 1.9 - For traffic operating conditions use “Level-of-Service” (LOS) of “D” or better on a PM peak hour basis as the planning objective for the evaluation of new development, mitigation measures, impact fees and public works capital improvement programs.

Streets and Highways Goal 2.3 - Off-street parking shall be required for all land uses in order to reduce congestion, improve overall operation and land use compatibility.

Streets and Highways Goal 4.2 - Specific Plans for future roadways on the fringe of the City shall be prepared in coordination with the County and/or Caltrans.

Public Transportation Goal 1.2 - Larger new developments along arterial and major collector streets shall provide transit-related public improvements (i.e., bus pullouts, bus shelters) to encourage bus use.

Public Transportation Goal 1.5 - Strongly encourage that new development projects incorporate transit- related design features as outlined below.

- A through roadway should connect adjacent developments so as to permit transit circulation between developments.
- In major employment/commercial areas, parking should be prohibited on collector and arterial streets to provide access to bus stops in these areas.
- Shielded openings in subdivisions sound walls should be provided to facilitate more direct pedestrian access to transit stops.
- In major employment/commercial areas, the Transit District should be encouraged to post route and schedule information.
- Commercial and industrial developments should have easy access to major arterials and transit stops.
- Park and ride sites should be strategically located to maximize utilization.

- Park and ride lots should be designed to accommodate not only motorists but also other users of public transit and van or carpooling.

Non-Motorized Transportation Goal 1.1 - Pedestrian travel shall be encouraged as a viable mode of movement throughout the City by providing safe and convenient pedestrian facilities, particularly in commercial areas and residential neighborhoods.

Non-Motorized Transportation Goal 1.2 - Within large retail and office centers, provisions shall be made for convenient and safe pedestrian movement through the large parking areas which surround these commercial centers.

Non-Motorized Transportation Goal 1.3 - Recreational bikeways shall be developed and maintained on separate rights-of-way (i.e., Calaveras River path, East Bay Municipal Utility District easement paths).

Non-Motorized Transportation Goal 1.4 - Right-of-way requirements for bike usage shall be considered in the planning of new arterial and collector streets and in street improvement projects.

Non-Motorized Transportation Goal 1.5 - Safe and secure bicycle parking facilities should be provided at major activity centers such as public facilities, employment sites and shopping and office centers.

City of Stockton 2035 General Plan Update

The City of Stockton has updated their General Plan LOS polices resulting in a change to the City's LOS threshold on several roadways. Based on the 2035 General Plan Update, the City would require that LOS D or better be maintained for both daily and peak hour conditions, with the following exceptions in the study area proposed due to physical constraints that limit the improvements that can be constructed:

- Eight Mile Road, Trinity Parkway to I-5 – LOS E
- Hammer Lane, I-5 to Kelley Drive – LOS E

California Environmental Quality Act (CEQA) Guidelines

Based on the California Environmental Quality Act (CEQA) guidelines, a project would cause a significant impact if it would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system
- Exceed, either individually or cumulatively, a LOS standard established by the county congestion management agency for designated roads or highways
- Results in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks

- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersection) or incompatible uses (e.g., farm equipment)
- Result in inadequate emergency access
- Results in inadequate parking capacity
- Conflict with adopted policies, plans or programs supporting alternative transportation

California Department of Transportation Guidelines
The California Department of Transportation is responsible for the maintenance and operation of state routes and highways. In Stockton, Caltrans' facilities include I-5 and SR 99. Caltrans maintains a volume monitoring program and reviews local agencies' planning documents (such as this EIR) to assist in its forecasting of future volumes and congestion points. Guide for the Preparation of Traffic Impacts Studies (January 2001) published by Caltrans is intended to provide a consistent basis for evaluating traffic impacts to State facilities. The City recognizes that "Caltrans endeavors to maintain a target LOS at the transition between LOS 'C' and LOS 'D'… on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS" (Guide for the Preparation of Traffic Impact Studies, January 2001). In addition, Caltrans states that for existing State highway facilities operating at less than the target LOS, the existing LOS should be maintained.

Permanent Impacts

The proposed SATLAP does not involve long-term generation of vehicular traffic. Therefore, no direct traffic impacts are expected.

Indirectly, the project will have an effect on the generation of traffic due to the relationship with Trinity Parkway improvements and the traffic generated from implementing the adjacent proposed Atlas Tract (The Preserve) development project. Since Trinity Parkway improvements are dependent of the proposed SATLAP, traffic impacts were analyzed as a result of the indirect effects from implementing Trinity Parkway. This analysis is provided below.

Alternatives 1, 3, and 4
Since traffic volumes are not directly generated by the levee, no traffic related impacts will occur.

Indirectly, the proposed SATLAP build alternatives 1, 2 and 3 include improvements to Trinity Parkway but do not include land use changes. Therefore, the build alternatives will not add new trips to the street network. Instead, they would redistribute existing and future trips in the surrounding area. Nonetheless, by constructing Trinity Parkway, new access will be provided in this portion of North Stockton and overall improvement to circulation should occur. Future vehicles from Spanos Park West (generally built out), Atlas Tract (planned) and Shima Tract (planned), together with vehicles from the Twin Creeks Estates subdivision will utilize the new roadway. In addition, it would be expected that the roadway would be utilized by other Stockton residents seeking alternative routing. Traffic volume increases in existing road facilities would be expected.

Level of Service (LOS) and delay times for project and other affected intersection are provided in the tables below. Tables 3.12.4 through 3.12.6 represent traffic conditions at completion of the Atlas Tract development project, as well as in the future.

Table 3.12.4: Existing Plus Approved Projects with Atlas Tract Intersection LOS Summary

Intersection		Control[1]	Peak Hour	Existing Plus Approved Projects Plus Atlas Tract	
				Delay[2,3]	LOS
1.	Eight Mile Road/Trinity Parkway	Signal	AM PM	51 33	D C
2.	McAuliffe Drive/Trinity Parkway	Signal	AM PM	27 29	C C
3.	Otto Drive/Trinity Parkway	Signal	AM PM	20 24	C C
4.	Otto Drive/Mariners Drive	SSSC	AM PM	9 (EB 13) 7 (EB 11)	A (EB B) B (EB B)
5.	Otto Drive/I-5 Southbound Ramps	N/A	N/A	N/A	N/A
6.	Otto Drive/I-5 Northbound Ramps	N/A	N/A	N/A	N/A
7.	Hammer Lane/Trinity Parkway	N/A	N/A	N/A	N/A
8.	Hammer Lane/Mariners Drive	Signal	AM PM	54 53	D D
9.	Mariners Drive/Whitewater Lane	SSSC	AM PM	1 (EB 14) 1 (EB 15)	A (EB B) A (EB B)
10.	Mariners Drive/Blackswain Place	AWSC	AM PM	17 19	C C
11.	Mariners Drive/Sturgeon Road	AWSC	AM PM	16 20	C C

Source: Fehr & Peers 2006
Notes: N.A = Not Applicable. Intersection analysis under future conditions only.
Bold: indicates deficient service level
[1] Signal = Signalized intersections; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection
[2] Signalized intersection average control delay (in seconds per vehicle) and LOS calculated using the Highway Capacity Manual (Transportation Research Board 2000) method.
[3] All-way stop controlled and side-street stop-controlled intersection LOS is based on average delay per vehicle (in seconds) according to the Highway Capacity Manual (Transportation Research Board 2000). For the side-street stop-controlled intersections, the worse case stop-controlled movement delays are presented in parentheses.

Table 3.12.4 indicates Levels of Service after implementation of mitigation measures regarding traffic for the proposed Atlas Tract development project. The Atlas Tract applicant will be responsible for completion of these mitigation measures. Roadway conditions are favorable for all intersections as they will operate above a Level of Service of "D" for Existing Plus Approved Projects.

Table 3.12.5: Future 2025 with Project Peak Hour Intersection LOS

Intersection		Control[1]	Peak Hour	Existing Plus Approved Projects Plus Atlas Tract	
				Delay[2,3]	LOS
1.	Eight Mile Road/Trinity Parkway	Signal	AM PM	22 29	C C
2.	McAuliffe Drive/Trinity Parkway	Signal	AM PM	30 **76**	C **E**
3.	Otto Drive/Trinity Parkway	Signal	AM PM	43 48	D D
4.	Otto Drive/Mariners Drive	Signal	AM PM	22 25	C C
5.	Otto Drive/I-5 Southbound Ramps	Signal	AM PM	29 14	C B
6.	Otto Drive/I-5 Northbound Ramps	Signal	AM PM	31 35	C D
7.	Hammer Lane/Trinity Parkway	Signal	AM PM	38 50	D D
8.	Hammer Lane/Mariners Drive	Signal	AM PM	30 25	C C
9.	Mariners Drive/Whitewater Lane	SSSC	AM PM	0 (EB 13) 0 (EB 14)	A (EB B) A (EB B)
10.	Mariners Drive/Blackswain Place	AWSC	AM PM	12 14	B B
11.	Mariners Drive/Sturgeon Road	AWSC	AM PM	13 15	B B

Source: Fehr & Peers 2006
Notes: N.A = Not Applicable. Intersection analysis under future conditions only.
Bold: indicates deficient service level
[1]Signal = Signalized intersections; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection
[2]Signalized intersection average control delay (in seconds per vehicle) and LOS calculated using the Highway Capacity Manual (Transportation Research Board 2000) method.
[3]All-way stop controlled and side-street stop-controlled intersection LOS is based on average delay per vehicle (in seconds) according to the Highway Capacity Manual (Transportation Research Board 2000). For the side-street stop-controlled intersections, the worse case stop-controlled movement delays are presented in parentheses.

Expect for McAuliffe Drive/Trinity Parkway (Level of Service E), roadway conditions are favorable for all other intersections as they will operate above a Level of Service of "D" for Future 2025 forecasts.

Table 3.12.6: Future 2035 with Project Peak Hour Intersection LOS

Intersection		Control[1]	Peak Hour	Existing Plus Approved Projects Plus Atlas Tract	
				Delay[2,3]	LOS
1.	Eight Mile Road/Trinity Parkway	Signal	AM PM	51 45	D D
2.	McAuliffe Drive/Trinity Parkway	Signal	AM PM	11 23	B C
3.	Otto Drive/Trinity Parkway	Signal	AM PM	53 46	D D
4.	Otto Drive/Mariners Drive	Signal	AM PM	15 55	B D
5.	Otto Drive/I-5 Southbound Ramps	Signal	AM PM	79 19	E B
6.	Otto Drive/I-5 Northbound Ramps	Signal	AM PM	30 ***> 80***	C ***F***
7.	Hammer Lane/Trinity Parkway	Signal	AM PM	29 26	C C
8.	Hammer Lane/Mariners Drive	Signal	AM PM	**62** 36	**E** D
9.	Mariners Drive/Whitewater Lane	SSSC	AM PM	12 14	B B
10.	Mariners Drive/Blackswain Place	AWSC	AM PM	10 14	B B
11.	Mariners Drive/Sturgeon Road	AWSC	AM PM	11 14	B B

Source: Fehr & Peers 2006
Notes: N.A = Not Applicable. Intersection analysis under future conditions only.
Bold: indicates deficient service level
[1] Signal = Signalized intersections; AWSC = All-way stop-controlled intersection; SSSC = Side-street stop-controlled intersection
[2] Signalized intersection average control delay (in seconds per vehicle) and LOS calculated using the Highway Capacity Manual (Transportation Research Board 2000) method.
[3] All-way stop controlled and side-street stop-controlled intersection LOS is based on average delay per vehicle (in seconds) according to the Highway Capacity Manual (Transportation Research Board 2000). For the side-street stop-controlled intersections, the worse case stop-controlled movement delays are presented in parentheses.

The intersection of Otto Drive/I-5 Northbound Ramps will operate at a Level of Service of "F" in the future (2035). However, this analysis is based on a conceptual interchange configuration. A Caltrans Project Study Report was recently approved for the Otto Drive/I-5 Interchange which contains alternative interchange configurations likely to operate more acceptably than the interchange concept analyzed above.

Alternative 2
Under Alternative 2, the existing levee would remain in place. Since traffic volumes are not directly generated by the levee, no traffic related impacts will occur. However, indirect impacts can be expected from implementing Alternative 2. The extension of Trinity Parkway would operate as a two-lane roadway rather than a four-lane roadway. A two-lane roadway would be insufficient to accommodate the area growth; therefore, Levels of Service at surrounding intersections can be expected to deteriorate with construction of planned development (Atlas Tract, Shima Tract). In addition, construction of a two-lane roadway does not comply with the circulation system outlined in the Circulation Element of the City of Stockton General Plan.

Temporary Impacts

All Build Alternatives
Construction of the proposed roadway alternatives could generate additional vehicle trips on area roadways due to construction equipment and workers entering and existing the project area. However, these impacts would be short-term, occurring only during the construction period and are, therefore, considered less than significant.

Alternative 4
Construction of Alternative 4 would require import of substantial amounts of fill material in order to elevate the Trinity Parkway extension roadway to the height of the existing levee. Transport of fill material would result in numerous truck trips from borrow sites in the Atlas Tract to the project site. However, if the borrow-related trips are restricted to the area within the Atlas Tract and do not extend out onto the local street system, the impacts would not be significant.

Mitigation Measures

All Build Alternatives
None required.

4.0 CUMULATIVE IMPACTS

In light of the previous entitlements surrounding the SATLAP and Trinity Parkway extension roadway project, cumulative impacts are not expected to adversely affect the environmental issues areas. Overall, most of the impacts from improvements are confined to the immediate project footprint area and generally can be mitigated at the project level.

The proposed levee has an implied association with the proposed construction of Trinity Parkway. In short, the levee alteration is triggered by the construction of Trinity Parkway which is a proposed roadway identified in the City of Stockton's Circulation Element and is designated with a four-lane cross-section. With the full construction of Trinity Parkway (i.e., four-lane cross-section), the project levee must be relocated, unless Alternative 4 is approved that would require widening of the current levee to allow construction of the roadway on top of the levee. The other project alternatives conflict with the City's Circulation Element (Alternative 2 No Build) or do not provide an equivalent level of flood protection when compared with current conditions (Alternative 3 No Levee).

The Atlas Tract has a separate levee system (the PLS) that protects the lands within the Atlas Tract from potential flooding hazards and/or inundation from the adjacent San Joaquin Delta resource. This levee system was recently constructed (2006-2007) and resulted in the removal of the Atlas Tract land from the flood plain. FEMA approved a Letter of Map Revision on March 30, 2007. Land development would have been prohibited within the Atlas Tract by the City of Stockton without the improved separate levee system (PLS) in place.

Construction of the roadway and/or levee re-construction is expected to have potential biological impacts occurring on a cumulative level. Impacts on burrowing owl species are anticipated due to the presence of occupied burrows on the existing levee feature. Levee alteration will result in cumulative biological (burrowing owl) impacts. These impacts, when combined with impacts from other development-related (e.g., Atlas Tract and Shima Tract), and other public works-related projects (I-5 Inside Widening/Auxiliary Lanes and Interchange Improvements), could be adverse. However, in recognition of the cumulative biological impacts, the San Joaquin Council of Governments has implemented the SJMSCP as a program to mitigate for impacts to burrowing owl species throughout the region. Adherence to this program will mitigate, on a cumulative basis, the combined impacts to affected biological species. Adherence to the SJMSCP plan considers the cumulative impacts on a regional basis.

Environmental documents for the adjacent Atlas Tract and Shima Tract land development projects include the proposed extension of Trinity Parkway as a minor arterial roadway in the cumulative impact analysis. During construction, when combined with other concurrent construction projects, as a result of intense construction equipment activity and dust generation, temporary impacts are expected on air quality. These temporary air quality impacts, when combined with temporary impacts from construction projects and long-term operational emissions in the basin, are cumulatively considerable. However, the San Joaquin Valley Air Pollution Control District has established rules to minimize these cumulative effects. Specifically, the rules restrict construction activities during various climatic conditions, as well as assess indirect source reduction fees to reduce the cumulative air quality impacts.

In addition to air quality effects, other potentially significant impacts include change in viewshed and potential changes to level of service at nearby intersections. For the proposed project, changes in viewshed are negligible, since the levee alteration re-establishes the levee within the same viewshed. Likewise, development of Trinity Parkway will modify the terrain at ground level (from unpaved right-of-way to paved roadway), but does not materially affect the viewshed. The ultimate development of the Atlas Tract, and Shima Tract residential projects will have a cumulative impact on viewshed, due to the conversion of agricultural lands to urban uses. These changes have no direct relationship to the SATLAP or Trinity Parkway extension construction (e.g., would occur with or without the proposed project as described above).

With the proposed SATLAP improvements and extension of Trinity Parkway, the region would experience a positive change in the level of service, as the combined improvements ultimately create additional traffic capacity, thus reducing traffic congestion and improving levels of service. With implementation of the Atlas Tract and Shima Tract projects, combined with cumulative traffic forecasts for the region, impacts on cumulative traffic conditions as a result of the proposed project and Trinity Parkway improvements should be reduced. Additional cumulative benefits include more efficient vehicular travel which improves local air quality conditions, and potentially reducing greenhouse gas emissions.

All other impacts associated with the proposed levee alteration and extension of Trinity Parkway are construction related (erosion/water quality/noise) which are temporary and project specific. Mitigation measures are presented to mitigate the temporary, construction-related impacts. All of the relevant cumulative projects should mitigate for the temporary construction-related impacts at a project level. Therefore, the construction-related short-term impacts are not considered cumulative (except air quality and traffic levels of service as described above).

5.0 COORDINATION AND CONSULTATION

This section describes the involvement of public agencies and the general public in development of the proposed SATLAP. It also lists contacts made with State, and local agencies, as well as other organizations or individuals during preparation of the environmental technical reports.

5.1 PROJECT DEVELOPMENT TEAM

The Project Development Team (PDT) includes representatives from the City of Stockton and consultant team. The PDT represents a variety of technical disciplines and environmental oversight.

LSA Associates, Inc.: Bill Mayer

MBK Engineers: Thomas Engler, CFM

Mid-Valley Engineering: Sean Tobin, Jon Cakus

City of Stockton: Gregg Meissner, Jim Giottonini, Mark Martin

5.2 COMMUNITY INTERACTION

The City of Stockton prepared Initial Study/Mitigated Negative Declarations in compliance with CEQA. Documents were approved for the Trinity Parkway Phase I project in September 2003 and in July 2007 for the Trinity Parkway Phase 2. The Atlas Tract (Preserve) EIR also includes discussion of the proposed SATLAP. This EIR was sent out for public review in November 2007. In compliance with California Environment Quality Act (CEQA), the documents were circulated for 30-45 days, allowing government agencies and general public to comment on the proposed project. These comments were incorporated and considered in preparation of the Final Documents.

5.3 CONSULTATIONS

Representatives of the following agencies were contacted during preparation of the environmental documents for this project.

Central California Information Center (Appendix A)

Native American Heritage Commission (Appendix A)

Native Americans (various) (Appendix A)

The Haggin Museum (Appendix A)

San Joaquin Historical Society (Appendix A)

State Lands Commission/submerged Cultural Resources Unit (Appendix A)

California Regional Water Quality Control Board (Section 3.6)

California Department of Fish and Game (Section 3.7)

U.S. Army Corps of Engineers (Section 3.7)

6.0 REPORT PREPARATION

LSA Associates, Inc.
4200 Rocklin Road, Suite 11B
Rocklin, CA 95677
Phone: (916) 630-4600
Fax: (916) 630-4603

Bill Mayer, Principal. Twenty-five years experience in environmental planning and document preparation. **Contribution: Project Manager and environmental review.**

Jeff Bray, Associate/Biologist. Eleven years experience as a biologist and permit coordinator. **Contribution: Biological Resources Evaluation and Agency Consultation.**

Shanna Guiler, AICP, Senior Environmental Planner. Six years experience preparing environmental documents. **Contribution: environmental review.**

Amberly Morgan, Assistant Environmental Planner. Two years experience preparing environmental documents. **Contribution: environmental review.**

Christian Gerike, Principal/Cultural Resource Manager. Twenty years experience in research, field, and administrative experience in the field of cultural resources management. **Contribution: Managing cultural resources staff and document review.**

John Kelley, Archaeologist. Eight years experience in cultural resources management, excavations, surveys, research, evaluations of archaeological sites, laboratory analysis, and teaching. **Contribution: Cultural Resources Study.**

Neal Kaptain, Archaeologist. Thirteen years experience in conducting archaeological investigations. **Contribution: Cultural Resources Study.**

Keith Lay, Senior Acoustical/Air Quality Engineer. Five years experience in preparing air quality and noise assessments**. Contribution: Preparation of Air Quality and Noise Studies.**

Tony Chung, Principal/Air Quality and Noise. Eighteen years experience in preparing noise and air quality assessments. **Contribution: Peer Review of Air Quality/Noise Studies.**

Reviewed by:

Jeffrey A. Koschak, Biological Sciences Environmental Manager - U.S. Army Corps of Engineers
Planning Division, Environmental Planning Section
1325 J Street
Sacramento, California 95814-2922

Richard M. Perry, Archaeologist - U.S. Army Corps of Engineers
Planning Division, Environmental Analysis Section
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Sacramento, California 95814-2922

7.0 REFERENCES

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APPENDIX A
CORRESPONDENCE

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

April 13, 2006

Regulatory Branch (200600224)

William Barbour
Reclamation District 2126
10100 Trinity Parkway, Fifth Floor
Stockton, California 95219

Dear Mr. Barbour:

We are responding to your consultant's request for an approved jurisdictional determination for the Atlas Tract site. This approximately 360-acre site is located on or near Mosher Slough and Bear Creek in Township 2 North, Range 5 East, MDB&M, Latitude 038° 02′ 14.7″, Longitude 121° 22′ 33.8″, San Joaquin County, California.

Based on available information, we concur with the estimate of potentially jurisdictional waters of the United States, as depicted on the **February 21, 2005, Atlas Tract Potential Jurisdictional Waters** drawing and tabulated on Table C: Acreage of Potential Jurisdictional Waters in the Study Area, prepared by **LSA Associates, Inc.** Approximately **25.29** acres of waters of the United States, including wetlands, are present within the survey area. 23.78 acres of waters are associated with slough channels, 1.05 acre of wetlands is associated with slough channels and 0.46 acre of wetlands is associated with interior drainage ditches. These waters are regulated under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act in accordance with 33 CFR 328.3(a)(1), (3)(i)(ii)(iii), and (7), and 33 CFR 329 Bear Creek and Mosher Slough and their adjacent wetlands are both navigable waters of the US and waters of the US. Based on the information provided, the interior drainage ditches are no longer connected to Mosher Slough because the pump station was removed over ten years ago. However, the interior drainage ditches continue to function as seasonal wetlands, adjacent to Mosher Slough and Bear Creek. In accordance with 33 CFR 328.3(c) wetlands separated from other waters of the US by man-made dikes or barriers, natural river berms, beach dunes and the like are "adjacent" wetlands. Therefore, the 0.46 acre of interior drainages are functioning as seasonal wetlands that are adjacent to Bear Creek and Mosher Slough.

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This letter contains an approved jurisdictional determination for your **Atlas Tract project**. If you object to this **approved jurisdictional determination**, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this you must submit a completed RFA form to the South Pacific Division Office at the following address:

Doug Pomeroy, Administrative Appeal Review Officer
Army Corps of Engineers, South Pacific Division
CESPD-PDS-O
333 Market Street, Room 923
San Francisco, California 94105-2195
Telephone: 415-977-8035 FAX: 415-977-8129

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the NAP. Should you decide to submit an RFA form, it must be received at the above address by June 12, 2006. It is not necessary to submit an RFA form to the Division Office if you do not object to the **approved jurisdictional determination** in this letter.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This determination has been conducted to identify the limits of Corps of Engineers' Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

Please refer to identification number 200600224 in any correspondence concerning this project. If you have any questions, please contact Marc Fugler at our Delta Office, 1325 J Street, Room 1480, Sacramento, California 95814-2922, email Marc.A.Fugler@usace.army.mil, or telephone 916-557-5255. You may also use our website: *www.spk.usace.army.mil/regulatory.html.*

Sincerely,

ORIGINAL SIGNED

William Guthrie
Chief, Delta Office

Enclosure(s)

Copy furnished without enclosure(s):

Rick Harlacher, LSA Associates, INC., 4200 Rocklin Road, Suite 11B, Rocklin, California 95677

William Marshall, Storm Water and Water Quality Certification Unit, Central Valley Regional Water Quality Control Board, 11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114

U.S. Fish and Wildlife Service, Endangered Species Division, 2800 Cottage Way, Suite W2605, Sacramento, California 95825-3901

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
1-1-06-F-0203

AUG 18 2006

Mr. William Guthrie
Chief, Delta Office
Army Corps of Engineers
1325 J Street
Sacramento, California 95814

Subject: Addendum of the Proposed Atlas Tract Development Project (U.S. Army Corps of Engineers File No. 200600224) in San Joaquin County, California to the Intra-Service Biological and Conference Opinion on Issuance of a Section 10(a)(1)(B) Incidental Take Permit to Multiple Applicants for a Multi-Species Habitat Conservation Plan to the San Joaquin County Council of Governments, in San Joaquin County, California (Service File 1-1-00-F-0231)

Dear Mr. Guthrie:

This letter is in response to your May 26, 2006, letter to the U.S. Fish and Wildlife Service (Service) requesting consultation, pursuant to section 7(a) of the Endangered Species Act of 1973, as amended (Act), on the proposed levee rehabilitation and residential development on the Atlas Tract in San Joaquin County, California. At issue are the potential effects of the proposed project on the federally-listed as threatened giant garter snake (*Thamnophis gigas*) and the federally-listed as endangered delta smelt (*Hypomesus transpacificus*).

The Service has reviewed the following documents: (1) the January 2006 *Initial Study/Mitigated Negative Declaration, Atlas Tract Levee Improvement Project, City of Stockton, California*; (2) the May 2006 *Biological Assessment, Atlas Tract, City of Stockton, San Joaquin County*; (4) e-mail and telephone correspondence between San Joaquin Council of Governments, LSA Associates, legal council for the applicant, and the Service; and (5) other information available to the Service.

The proposed project, including the avoidance, minimization, and mitigation measures submitted appear consistent with the San Joaquin County Multiple Species Habitat Conservation Plan (SJMSCP). In addition to these measures, the applicant has agreed to perform habitat enhancements to benefit both the giant garter snake and the delta smelt on the ShinKee tract, which is approximately 4 miles northwest of the Atlas tract. The applicant and/or their representative will work with the Service on designing these enhancements to benefit these species. The enhancements shall be completed within one year following the ground-breaking of work on the Atlas tract.

No new circumstances as identified at 50 C.F.R. 402.16 have occurred that would alter the non-jeopardy determination for the covered species we made in our internal biological opinion (Service File 1-1-00-F-0231) regarding the SJMSCP and associated incidental take permit issued to San Joaquin County. Therefore, the biological opinion remains valid.

Provided San Joaquin County fulfills their obligations under the SJMSCP, complies with the Incidental Take Minimization Measures and Conditions issued by the San Joaquin Council of Government, and performs habitat enhancements on the ShinKee tract, take of delta smelt and giant garter snake by the applicant will be authorized through San Joaquin County's incidental take permit.

No further action pursuant to the Act is necessary unless new information reveals effects of the proposed action that may affect listed species in a manner or to an extent not considered; the action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this determination; or a new species or critical habitat is designated that may be affected by the proposed action.

If you have questions regarding this proposed project, please contact Jana Milliken or Susan Jones of my office at (916) 414-6600.

Sincerely,

for Peter A. Cross
Deputy Assistant Field Supervisor

cc:
Rick Harlacher, LSA Associates
Steve Mayo, San Joaquin Council of Governments

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(1/97)

U.S. FISH & WILDLIFE SERVICE

FEDERAL FISH AND WILDLIFE PERMIT

1. PERMITTEE

SAN JOAQUIN COUNTY MSCP PERMITTEES
(SEE BOX C.1 BELOW)

2. AUTHORITY-STATUTES
16 USC 1539(A)
16 USC 703-712

REGULATIONS *(Attached)*
50 CFR 17.22
50 CFR 17.32
50 CFR 13
50 CFR 21.27

3. NUMBER
TE043280-0

4. RENEWABLE
[X] YES
[ ] NO

5. MAY COPY
[X] YES
[ ] NO

6. EFFECTIVE
May 31, 2001

7. EXPIRES
May 30, 2051

8. NAME AND TITLE OF PRINCIPAL OFFICER *(If #1 is a business)*
JULIA E. GREENE
EXECUTIVE DIRECTOR, SAN JOAQUIN COG

9. TYPE OF PERMIT
THREATENED AND ENDANGERED SPECIES

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
All of San Joaquin County, California, except for Federal lands and areas encompassed by those projects not covered by the San Joaquin MSCP as listed in section 8.2.2.2. of the MSCP.

11. CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

C.1.

a. San Joaquin Council of Governments
6 South El Dorado St., Suite 400
Stockton, CA 95202

b. San Joaquin County
222 E. Weber Avenue
Stockton, CA 95202

c. City of Stockton
City Hall
425 North El Dorado Street
Stockton, CA 95202

d. City of Ripon
259 North Wilma Avenue
Ripon, CA 95366

e. City of Lathrop
16775 Howland Road
Lathrop, CA 95330

f. City of Manteca
1001 West Center Street
Manteca, CA 95337

g. City of Escalon
1854 Main Street
Escalon, CA 95320

h. City of Tracy
325 E. Tenth Street
Tracy, CA 95376

i. City of Lodi
221 W. Pine Street
Lodi, CA 95240

j. San Joaquin Area Flood Control Agency (SJAFCA)
425 North El Dorado
Stockton, CA 95202

D. Further conditions of authorization are contained in the attached Special Terms and Conditions.

[X] ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12. REPORTING REQUIREMENTS

ISSUED BY Alexandra Pitts

TITLE ACTING DEPUTY
MANAGER, CALIF/NEVADA OPERATIONS OFFICE

DATE MAY 31 2001

D. All sections of Title 50 CFR §§ 13, 17.22, and 17.32 are conditions of this permit (Attachment 1).

E. The authorization granted by this permit is subject to compliance with, and implementation of the Final San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (MSCP), and executed Implementation Agreement (IA), both of which are hereby incorporated into the permit.

F. The Permittees (San Joaquin Council of Governments; San Joaquin County; the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy; and the San Joaquin Area Flood Control Agency), and Third Parties as defined in section 9 of the IA, are authorized to take 42 species on the Federal list of "Covered Species" (Attachment 2) to the extent that take of these species would otherwise be prohibited under section 9 of the Endangered Species Act of 1973, as amended (Act), and its implementing regulations, or pursuant to a rule promulgated under section 4(d) of the Act. For each Covered Species which is not listed as threatened or endangered under the Act, the section 10(a) permit will become effective with respect to such species concurrent with the listing of the species to the extent that their take is prohibited by the Act. Take must be incidental to otherwise lawful "Permitted Activities" as described in chapter 8.2 of the MSCP, and as conditioned herein. The amount of take and limitations of take coverage (e.g. no kill) are described in Attachment 3 (Tables 36 and 37 from Fish and Wildlife Service [Service] Biological and Conference Opinion # 1-1-00-F-231), chapter 4.3 of the MSCP for each species, and clarified in permit conditions below.

G. This section 10(a) permit also constitutes a Special Purpose Permit under 50 CFR § 21.27 for the take of those Covered Species which are listed as threatened or endangered under the Act, and which are also protected under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703-712), in the amount and/or number specified in the MSCP, subject to the following terms and conditions.

i. No lethal take is authorized.
ii Take of active nests is not permitted at any time.

Such Special Purpose Permit shall be valid for a period of 3 years from the effective date, provided the section 10(a) permit remains in effect for such period. Such Special Purpose Permit shall be renewed, provided that the Permittees continue to fulfill their obligations under the MSCP and IA. Each such renewal shall be valid for the maximum period of time allowed by 50 CFR § 21.27 or its successor at the time of renewal.

H. Any incidental take of Covered Species due to mortality or habitat loss within U.S. Army Corps of Engineer's (Corps) jurisdictional wetlands or other waters of the United States, or resulting from other Covered Activities that may require a Federal permit or authorization, is only authorized by this incidental take permit provided that appropriate authorization also is secured from the Corps and any other Federal agency with jurisdiction. Such authorization with other Federal agencies shall be provided through future Section 7 consultation(s) between the Service and the Corps under the Act, pursuant to section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act, or other Federal agencies. Incidental take of wetland associated or dependent species outside of jurisdictional wetlands will be in accordance with the MSCP and the IA.

I. Special restrictions apply to Natural and Agricultural Habitat lands referred to under the Tier 2 Analysis in the Service's Biological and Conference Opinion (#1-1-00-F-231):

Incidental take of Covered Species within the 744 acres of unmapped upland Natural Lands and 9,720 acres of unmapped Agricultural Habitat lands is authorized under Permit TE-043280-0 only if the amount of take by these additional land conversions does not exceed the amount of take authorized under this Permit. Otherwise incidental take for projects that affect these unmapped areas is not authorized by Permit TE-043280-0. Such take may be authorized through future section 7 consultation(s) under the Act, either with the Service or other Federal agency. The amount of take authorized for an unmapped area shall be deducted from the amount of take authorized for areas referred to under the Tier 1 analysis in the Service's Biological and Conference Opinion (#1-1-00-F-231).

J. To assist in tracking the types of Natural Lands impacted by Covered Activities, to enable the Permitting agencies to assess whether the MSCP is appropriately targeting Preserve Lands that mimic Natural Lands Converted as advocated in MSCP section 5.4.5.B., to determine if the essential behaviors of all impacted Covered Species are adequately accommodated in MSCP Preserves, and to enable the Service to maintain a current baseline for Covered Species in San Joaquin County, the Joint Powers Authority established to implement the MSCP shall provide to the Service and California Department of Fish and Game, as part of its Annual Reporting requirements, the most current Geographic Information System layer(s) of vegetation types (when updates are made pursuant to section 5.9.3.3 of the MSCP), Natural Lands converted during the reporting year, and Preserves acquired during the reporting year.

K. For the purposes of the MSCP, the following projects are assumed to have direct or indirect impacts on occupied habitat for the riparian brush rabbit (*Sylvilagus bachmani riparius*) and/or riparian woodrat (*Neotoma fucipes riparia*) and shall be considered ineligible for waiver of MSCP compensation requirements. Necessary avoidance and minimization shall be determined by the Service on a case-by-case basis.

1. Projects with the potential to introduce domestic pets to the project site.

2. Projects such as sewage or other outfall structures that discharge into occupied or potential habitat.

3. Projects that would directly or indirectly introduce human intrusion into occupied or potential habitat (residential and recreational development).

4. Any other project with direct or indirect effects that exceed the criteria of 5.2.4.23.C and 5.2.4.24.C of the MSCP for limited take.

Such projects require case-by-case review by the Service, for it is impossible to prescribe all appropriate incidental take avoidance measures for every project that may be proposed in these areas. Projects that meet the Service's incidental take avoidance measures may be appended to Biological and Conference Opinion #1-1-00-F-231 without additional review.

L. Upon finding dead, injured, or sick Covered Species associated with activities authorized under this incidental take permit, the Permittees must notify the Service's Sacramento Fish and Wildlife Office within 3 working days. The Service contact person is the Branch Chief of the San Joaquin Valley Branch, Endangered Species Division. The phone number is (916) 414-6600. All observations of Covered Species - live, injured or dead - shall be recorded on California Natural Diversity Data Base field sheets and sent to the California Department of Fish and Game, 1220 South Street, Sacramento, California 95814.

M. Any other federally listed or proposed species found on or adjacent to the Permit Area must be reported within 3 working days of its finding. The Service contact for this information is the Chief of the Endangered Species Division, Sacramento Fish and Wildlife Office, at (916) 414-6600.

N. All reporting for this permit shall be in compliance with chapter 5.9 of the MSCP. Annual reports are due March 1 of each year that the permit is in effect, beginning in 2002. Copies of all reports shall be submitted to the Field Supervisor, Sacramento Fish and Wildlife Office, 2800 Cottage Way, Suite W-2605, Sacramento, California 95825, and to the Assistant Regional Director, Ecological Services, U.S. Fish and Wildlife Service, 911 Northeast 11th Avenue, Portland, Oregon 97232.

O. A copy of this permit must be on file with each of the Permittees. Please refer to the permit number in all correspondence and reports concerning permit activities. Any questions you may have about this permit should be directed to the Field Supervisor, Sacramento Fish and Wildlife Office, at 916-414-6600.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

September 29, 2006

In response refer to:
2006/03537

William Guthrie
Chief, Delta Office
U.S. Army Corps of Engineers
1325 J Street
Sacramento, California 95814-2922

Dear Mr. Guthrie:

This is in response to your letter of May 25, 2006, initiating consultation under section 7 of the Endangered Species Act (ESA) with NOAA's National Marine Fisheries Service (NMFS) for issuance of a U.S. Army Corps of Engineers (Corps) permit for the proposed Atlas Tract project located in San Joaquin County, California. Your letter indicates that you believe the proposed project may affect Federally listed endangered Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), threatened Central Valley spring-run Chinook salmon (*O. tshawytscha*), threatened Central Valley steelhead (*O. mykiss*), and threatened North American green sturgeon (*Acipenser medirostris*). Your office also has determined that the project may adversely affect Essential Fish Habitat (EFH) for Pacific salmon, pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

The project applicant proposes to develop a residential project on Atlas Tract in the City of Stockton. In conjunction with this development project, the surrounding Mosher Slough and Bear Creek levees will be rehabilitated and a new stormwater pump station and outfall will be constructed. The 360-acre development will consist of approximately 1,156 single family residential homes, 355 cluster units, 258 condominiums, a school site, and easements for parks and flood storage. A new levee prism will be constructed inland from, and partially on top of, the existing levees surrounding Atlas Tract. Work on the existing levees facing the waterways will be limited to grading at the interface with the new levee prism. Also proposed for development is an integrated wetlands system and stormwater pump station to treat stormwater prior to release into waters of the Sacramento-San Joaquin Delta (Delta). Components of the system include a storm drain outlet chamber, flow pump, constructed wetlands, recirculating pumps and return lines, a stormwater pump station, and an outlet structure. The stormwater treatment system will be designed to provide 100-year flood protection in conjunction with the wetland storage. The stormwater outfall will consist of five 30"-steel outfall pipes fitted with Tidelflex check valves. Approximately 935 square feet of woven ArmorFlex mats will be placed in Mosher Slough below mean high water level. In addition, a concrete structure supporting the outflow pipes will be constructed on slough side of the levee measuring approximately 15 feet wide by 39 feet long. The outfall construction will required the installation of a coffer dam and temporary dewatering of its enclosure in Mosher Slough. The inwater portion of the work is going to be completed between June 1 and October 31. NMFS requested additional information from the applicant on July 19, 2006, and on August 4, 2006. A Conceptual Stormwater Treatment and Pump Station plan and a Stormwater Pollution Prevention plan were received on August 7, 2006, and August 23, 2006, respectively, enabling NMFS to assess the impacts of the proposed project to listed salmonids and sturgeon. In addition, a letter describing the source of water for the proposed development was received by NMFS on September 15, 2006.

ESA Section 7 Consultation

The proposed Atlas Tract project site does not fall within the geographic boundaries for the Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook salmon Evolutionarily Significant Units, or the Southern Distinct Population Segment (DPS) of North American green sturgeon, nor does it fall within designated critical habitat for Sacramento River winter-run Chinook salmon and Central Valley spring-run Chinook salmon. The proposed project site is within the geographic boundaries and is designated critical habitat for Central Valley steelhead, however, we are not aware of evidence that portions of Mosher Slough or Bear Creek in the project area are occupied by Central Valley steelhead and the existing habitat does not appear adequate to support them. Because the effects of the proposed project also are stormwater related and connected to downstream waters of the Delta, there are potential runoff impacts. These impacts could affect Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, Central Valley steelhead, and North American green sturgeon migrating and rearing in the Delta.

Adverse impacts to salmonids and sturgeon are not expected due to the conservation measures incorporated into the proposed project. These conservation measures include:

(1) An inwater work window avoiding the presence of Central Valley steelhead.

(2) An appropriately sized stormwater treatment system with integrated wetland stormwater treatment and filtration. This measure will reduce stormwater related runoff impacts to salmonids and sturgeon present in the Delta, as it will reduce pollutant levels.

(3) A Stormwater Pollution Prevention Plan incorporating Best Management Practices reducing construction related contamination due to erosion, fluid leakage, and garbage. Methods proposed to be incorporated include; silt fences, sediment basins, fiber rolls, vehicle and equipment cleaning and fuelling, and spill prevention, and control.

We have reviewed the project description and the conservation and protective measures included for avoiding and minimizing adverse effects to listed salmonids and green sturgeon. Based on our review of the project description, information provided, and the best scientific and commercial information currently available, NMFS has determined that the Atlas Tract project is not likely to adversely affect Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, North American green sturgeon, and Central Valley steelhead, or designated critical habitat for these species. This finding is based on the Corps and the applicant implementing all conservation and protective measures intended to avoid or minimize adverse effects to fish and fish habitat as identified in the project description. This concludes informal consultation for the proposed action. Reinitiation of consultation is required where discretionary

Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered; or (3) a new species is listed or critical habitat designated that may be affected by the action.

EFH Consultation

Based on our review of the project description and conservation and protective measures provided, NMFS finds that the project activities will not adversely affect EFH for Pacific Salmon. We find the project activities incorporated in the project description include conservation measures that will reduce adverse affects to EFH for Pacific Salmon as described in Amendment 14 of the Pacific Salmon Fishery Management Plan pursuant to the MSA. Therefore, EFH Conservation Recommendations will not be provided. Written response as required under section 305(b)(4)(B) of the MSA and Federal regulations (50 CFR § 600.920) will not be required. Should additional information reveal that the project may affect EFH and/or impact salmonids in a way not previously considered, or should the action be modified in a way that may cause additional effects to EFH, this determination may be reconsidered.

Please contact Jeff McLain at (916) 930-5648, or via e-mail at Jeff.Mclain@noaa.gov if you have any questions concerning this project or require additional information.

Sincerely,

for Rodney R. McInnis
Regional Administrator

cc: Copy to ARN 151422SWR2006SA00420
NMFS-PRD, Long Beach, CA
Jim Panagopoulos, A.G. Spanos Trust, 10100 Trinity Parkway, Fifth Floor, Stockton, CA 95219
William Barbour, Reclamation District 2126, 10100 Trinity Parkway, Fifth Floor, Stockton, CA 95219
Rick Harlacher, LSA Associates, Inc., 4200 Rocklin Road, Suite 11B, Rocklin, CA 95677

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
P.O. BOX 942896
SACRAMENTO, CA 94296-0001
(916) 653-6624 Fax: (916) 653-9624
calshpo@ohp.parks.ca.gov
www.ohp.parks.ca.gov

June 25, 2008

In Reply Refer To: COE080519A

Francis C. Piccola
Chief, Planning Division
Department of the Army
U.S. Army Engineer District, Sacramento
1326 J Street
Sacramento, California 95814

Re: Atlas Tract Levee Alteration Project, Stockton, San Joaquin County, California.

Dear Mr. Piccola:

Thank you for seeking my consultation concerning the proposed Atlas Tract Levee Alteration Project in San Joaquin County California. The U.S. Army Corps of Engineers (COE) Sacramento District, is seeking my concurrence on the effects that the subject undertaking will have on historic properties, pursuant to 36 CFR Part 800 (as amended 8-05-04) regulations implementing Section 106 of the National Historic Preservation Act (NHPA). Reclamation District 2126 is proposing the Atlas Tract Levee Alteration Project, which will consist of constructing a four-lane arterial and realignment of the eastern portion of the Atlas Tract levee between Bear Creek and Mosher Slough in Stockton, San Joaquin County.

The construction of the two travel lanes between Bear Creek and Otto Drive, and the four vehicular travel lanes from Otto Drive to Mosher Slough, will require the realignment of the dry land levee located along the eastern edge of the Atlas Tract levee. This new levee section will be situated approximately 300 feet to the west and will be approximately 4,000 feet in length. The existing section of levee will be removed. New utility lines will also be installed as well as an extension to the existing Otto Drive, including ramps to and across the new levee section. This project requires a permit from the COE pursuant to Section 408 of the Rivers and Harbors Act. The COE has identified this permitting action as an undertaking subject to Section 106 of the NHPA.

In an earlier consultation (COE060901A) the COE requested my comments regarding a substantially different, and much more extensive, version of this undertaking (COE letter of August 30, 2006). In my reply (SHPO letter of September 18, 2006) I requested that the COE submit additional historic property identification efforts regarding the potential for buried archaeological sites/deposits in the project APE, which was then described as a parcel of approximately 360 acres. At this time you are responding to my request for additional documentation and significantly redefining the project Area of Potential Effects to a much smaller parcel totaling approximately 9.5 acres. The permitting authority being currently consulted on by the COE is now limited to the Section 408 permit and no longer includes the Section 404 (Clean Water Act) permit which also included in its APE a proposed residential development in Atlas Tract. In addition to your letter of May 5, 2008 and attachments, you have submitted the following documents as evidence of your efforts to identify and evaluate historic properties in the project APE:

- *Cultural Resources Study for the Trinity Parkway/Aksland Avenue Extension Project* (Neal Kaptain, LSA Associates, Inc.: September 25, 2002).

- *A Cultural and Paleontological Resources Study for the Atlas Tract Project* (John Kelly, Susan Huster, and Ben Matzen; LSA Associates, Inc.: August 31, 2005).

- *A Cultural Resources Subsurface Investigation for the Aksland Avenue/Trinity Parkway Extension Project Near Stockton, San Joaquin County, California* (Joy Longfellow and Christian Gerike, LSA Associates, Inc.: June 12, 2006).

- *Geoarchaeological Study for the Atlas Tract Levee Alteration Project: Stockton, San Joaquin County, California* (Heather Blind, M.A. and Christian Gerike, M.A., LSA Associates, Inc.: May 2008).

- *A National Register Evaluation of P-39-004529, The Atlas Tract Levee, for the Atlas Tract Levee Alteration Project, Stockton, San Joaquin County, California* (Christian Gerike and Neal Kaptain, LSA Associates, Inc.: May 1, 2008).

The only historic property identified in the APE for this undertaking is the Atlas Tract Levee, which the COE has concluded is not eligible for the National Register of Historic Places under any criteria. The COE has reached this conclusion because the levee has been extensively modified and no longer possesses the integrity of design, materials, workmanship, or feeling necessary to convey a sense of historic significance related to the relevant period of Delta reclamation (circa 1905 for the Atlas Tract levee).

Based on my review of your letter and supporting documentation, I have the following comments:

1) I concur that the Area of Potential Effects (APE) has been properly determined and documented pursuant to 36 CFR Part 800.4 (a) (1) and that the Efforts to Identify Historic Properties within the APE represent a reasonable and good faith effort by the COE pursuant to 36 CFR Part 800.4.

2) I further concur that the Atlas Tract Levee (P-39-004529) is not eligible for the National Register of Historic Places under any criteria.

3) I further concur that your proposed finding of No Historic Properties Affected is appropriate pursuant to 36 CFR Part 800.4 (d)(1) and that supporting documentation has been provided pursuant to 36 CFR Part 800.11(d).

Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, the COE may have additional future responsibilities for this undertaking under 36 CFR Part 800. Thank you for seeking my comments and for considering historic properties in planning your project. I f you require further information, please contact William Soule, Associate State Archeologist, at phone 916-654-4614 or email wsoule@parks.ca.gov.

Sincerely,

ORIGINAL SIGNED BY SUSAN STRATTON FOR:

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

STATE OF CALIFORNIA THE RESOURCES AGENCY
ARNOLD SCHWARZENEGGER, GOVERNOR
DEPARTMENT OF FISH AND GAME
BAY DELTA REGION
(707) 944-5520
Mailing address:
POST OFFICE BOX 47
YOUNTVILLE, CALIFORNIA 94599
Street address:
7329 SILVERADO TRAIL
NAPA, CALIFORNIA 94558

RECEIVED
DEC 21 2007
BY:

December 17, 2007

Ms. Karen Garrett
Reclamation District Number 2126
10100 Trinity Parkway, Fifth Floor
Stockton, California 95219

Dear Ms. Garrett:

Notification of Lake or Streambed Alteration
Notification No. 1600-2007-0395-3
Unnamed Area to Pixley Slough, San Joaquin County

The Department of Fish and Game (DFG) received your notification and deemed it complete. Due to staffing constraints, the Department was unable to provide you with a proposal within the time lines required by the California Fish and Game Code. As a result, by law, you may now complete the project described in your notification without an agreement. In doing so, however, the project must be the same one and conducted in the same manner as described in the notification. That includes completing the project within the proposed term and seasonal work period and implementing all mitigation and avoidance measures to protect fish and wildlife resources specified in the notification. [Fish and Game Code section 1602(a)(4)(D).] The work periods that you submitted in your notification are February 6, 2008 until April 14, 2009. This work period cannot be modified or extended by the Department.

If your project differs from the one described in the notification, you may be in violation of Fish and Game Code section 1602. Also, even though you are entitled to complete the project without an agreement, you are still responsible for complying with all other applicable local, state, and federal laws, including, for example, the state and federal Endangered Species Acts and Fish and Game Code sections 5650 (water pollution) and 5901 (fish passage).

Finally, you must have a copy of this letter ***and*** your notification with all attachments available at all times at the work site. If you have any questions regarding this matter, please contact Janice Gan, Staff Environmental Scientist, at (209) 835-6910.

Sincerely,

for Charles Armor
Regional Manager
Bay Delta Region

cc: Janice Gan
Warden Oldfather
Lieutenant Vielhauer

Copy:
① JP
② MH
③ Jon Callus

FOR DEPARTMENT USE ONLY				
Date Received	Amount Received	Amount Due	Date Complete	Notification No.
8/8/07	$ 200⁰⁰	$		1600-2007-0395-3

CK # 1820
AGS - A.G. Spanos

Atlas Tract Old Father Vielhauer

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

Complete EACH field, unless otherwise indicated, following the enclosed instructions and submit ALL required enclosures. Attach additional pages, if necessary.

Fish & Game
AUG 08 2007
Yountville

1. APPLICANT PROPOSING PROJECT

Name	Karen Garrett		
Business/Agency	Reclamation District No. 2126		
Street Address	10100 Trinity Parkway, Fifth Floor		
City, State, Zip	Stockton, CA 95219		
Telephone	(209) 478-2530	Fax	(209) 954-3524
Email	Business: (209) 478-2530 / Fax: (209) 954-3524		

2. CONTACT PERSON (*Complete only if different from applicant*)

Name	Rick Harlacher LSA Associates, Inc.		
Street Address	4200 Rocklin Road, Suite 11B		
City, State, Zip	Rocklin, CA 95677		
Telephone	(916) 630-4600	Fax	(916) 630-4603
Email	rick.harlacher@lsa-assoc.com		

3. PROPERTY OWNER (*Complete only if different from applicant*)

Name	A.G. Spanos Trust		
Street Address	10100 Trinity Parkway, Fifth Floor		
City, State, Zip	Stockton, CA 95219		
Telephone	(209) 955-2550	Fax	(209) 955-2562
Email			

4. PROJECT NAME AND AGREEMENT TERM

A. Project Name	Atlas Tract Dry Land Levee Project
B. Agreement Term Requested	☑ Regular (*5 years or less*) ☐ Long-term (*greater than 5 years*)

C. Project Term		D. Seasonal Work Period		E. Number of Work Days
Beginning (*year*)	Ending (*year*)	Start Date (*month/day*)	End Date (*month/day*)	
2008	2009	02/06	04/14	310.00

NOTIFICATION OF LAKE OR STREAMBED ALTERATION

5. AGREEMENT TYPE

Check the applicable box. If box B, C, D, or E is checked, complete the specified attachment.

A.	☑ Standard *(Most construction projects, excluding the categories listed below)*	
B.	☐ Gravel/Sand/Rock Extraction (*Attachment A*)	*Mine I.D. Number:* ______
C.	☐ Timber Harvesting (*Attachment B*)	THP *Number:* ______
D.	☐ Water Diversion/Extraction/Impoundment (*Attachment C*)	*SWRCB Number:* ______
E.	☐ Routine Maintenance (*Attachment D*)	
F.	☐ DFG Fisheries Restoration Grant Program (FRGP)	*FRGP Contract Number:* ______
G.	☐ Master	
H.	☐ Master Timber Harvesting	

6. FEES

Please see the current fee schedule to determine the appropriate notification fee. Itemize each project's estimated cost and corresponding fee. ***Note: The Department may not process this notification until the correct fee has been received.***

	A. Project	B. Project Cost	C. Project Fee
1	Base Fee	$200.00	$200.00
2			
3			
4			
5			
		D. Base Fee *(if applicable)*	$200.00
		E. TOTAL FEE ENCLOSED	$200.00

7. PRIOR NOTIFICATION OR ORDER

A. Has a notification previously been submitted to, or a Lake or Streambed Alteration Agreement previously been issued by, the Department for the project described in this notification?

☐ Yes (*Provide the information below*) ☑ No

Applicant: ______ Notification Number: ______ Date: ______

B. Is this notification being submitted in response to an order, notice, or other directive ("order") by a court or administrative agency (including the Department)?

☐ No ☑ Yes (*Enclose a copy of the order, notice, or other directive. If the directive is not in writing, identify the person who directed the applicant to submit this notification and the agency he or she represents, and describe the circumstances relating to the order.*)

☐ *Continued on additional page(s)*

8. PROJECT LOCATION

A. Address or description of project location.

(Include a map that marks the location of the project with a reference to the nearest city or town, and provide driving directions from a major road or highway)

The Atlas Tract Dry Land Levee Project is located within the western portion of the City of Stockton, at the eastern edge of the San Joaquin Delta. The levee is bordered by Bear Creek on the north, Mosher Slough on the south, the Twin Creeks Estates residential development on the east, and the Atlas Tract property that is proposed for development to the west (Figure 1). Adjacent land uses include orchards to the south, natural open space to the northeast, and residential development to the east.

☐ *Continued on additional page(s)*

B. River, stream, or lake affected by the project.	No stream or lake will be affected
C. What water body is the river, stream, or lake tributary to?	Pixley Slough
D. Is the river or stream segment affected by the project listed in the state or federal Wild and Scenic Rivers Acts?	☐ Yes ☑ No ☐ Unknown
E. County	

F. USGS 7.5 Minute Quad Map Name	G. Township	H. Range	I. Section	J. ¼ Section
Lodi South	T 2 N	R 5 E & R 6 E	7,12	7:NW, 12:NE

☐ *Continued on additional page(s)*

K. Meridian (*check one*) ☐ Humboldt ☑ Mt. Diablo ☐ San Bernardino

L. Assessor's Parcel Number(s)

071-170-020 3

☐ *Continued on additional page(s)*

M. Coordinates (*If available, provide at least latitude/longitude or UTM coordinates and check appropriate boxes)*

Latitude/Longitude	*Latitude:* 38°2'30"	*Longitude:* -121°2'30"	
	☑ Degrees/Minutes/Seconds	☐ Decimal Degrees	☐ Decimal Minutes
UTM	*Easting:*	*Northing:*	☐ Zone 10 ☐ Zone 11
Datum used for Latitude/Longitude or UTM	☐ NAD 27	☑ NAD 83 or WGS 84	

9. PROJECT CATEGORY AND WORK TYPE *(Check each box that applies)*

PROJECT CATEGORY	NEW CONSTRUCTION	REPLACE EXISTING STRUCTURE	REPAIR/MAINTAIN EXISTING STRUCTURE
Bank stabilization – bioengineering/recontouring	☐	☐	☐
Bank stabilization – rip-rap/retaining wall/gabion	☐	☐	☐
Boat dock/pier	☐	☐	☐
Boat ramp	☐	☐	☐
Bridge	☐	☐	☐
Channel clearing/vegetation management	☐	☐	☐
Culvert	☐	☐	☐
Debris basin	☐	☐	☐
Dam	☐	☐	☐
Diversion structure – weir or pump intake	☐	☐	☐
Filling of wetland, river, stream, or lake	☐	☐	☐
Geotechnical survey	☐	☐	☐
Habitat enhancement – revegetation/mitigation	☐	☐	☐
Levee	☐	☑	☐
Low water crossing	☐	☐	☐
Road/trail	☐	☐	☐
Sediment removal – pond, stream, or marina	☐	☐	☐
Storm drain outfall structure	☐	☐	☐
Temporary stream crossing	☐	☐	☐
Utility crossing : Horizontal Directional Drilling	☐	☐	☐
Jack/bore	☐	☐	☐
Open trench	☐	☐	☐
Other *(specify)*:	☐	☐	☐

10. PROJECT DESCRIPTION

A. Describe the project in detail. Photographs of the project location and immediate surrounding area should be included.

- Include any structures (e.g., rip-rap, culverts, or channel clearing) that will be placed, built, or completed in or near the stream, river, or lake.
- Specify the type and volume of materials that will be used.
- If water will be diverted or drafted, specify the purpose or use.

Enclose diagrams, drawings, plans, and/or maps that provide all of the following: site specific construction details; the dimensions of each structure and/or extent of each activity in the bed, channel, bank or floodplain; an overview of the entire project area (i.e., "bird's-eye view") showing the location of each structure and/or activity, significant area features, and where the equipment/machinery will enter and exit the project area.

The project involves the realignment of the existing dry land levee to accommodate the construction of a future 4-lane roadway that will extend from Trinity Parkway (formally referred to as Aksland Boulevard/ Trinity Parkway) at the Bear Creek Bridge in the north to Mosher Slough in the south. Figure 2 provides an overview of the project and illustrates the proposed levee realignment. Although related, the two elements are separate proponents: Reclamation District 2126 is responsible for the levee realignment project, and the City of Stockton is responsible for the proposed road construction.

The realignment of the dry land levee is required in order to accommodate the construction of the four lane arterial cross section of Trinity Parkway from Bear Creek to Mosher Slough. The realignment will extend the length of the property from north to south along the western edge of the Trinity Parkway right-of-way (in a north-south direction). The new dry land levee will extend up to 300 feet west of the existing levee, as measured from the western toe of the existing levee to the western toe of the realigned levee. At the Otto Drive intersection, a segment of the dryland levee will be elevated slightly in anticipation of the future entrance into the proposed Atlas Tract (The Preserve) development project. The dry land levee will also be elevated at the southern end of the project to meet the height elevation of the new Atlas Tract levee system and future Mosher Slough-Trinity Parkway bridge. The dry land levee is currently under the jurisdiction of the State Reclamation Board.

☐ *Continued on additional page(s)*

B. Specify the equipment and machinery that will be used to complete the project.

Scrapers, bulldozers, and excavators.

☐ *Continued on additional page(s)*

C. Will water be present during the proposed work period (specified in box 4.D) in the stream, river, or lake (specified in box 8.B).	N/A ☐ Yes ☐ No (*Skip to box 11*)
D. Will the proposed project require work in the wetted portion of the channel?	☐ Yes (*Enclose a plan to divert water around work site*) ☑ No

11. PROJECT IMPACTS

A. Describe impacts to the bed, channel, and bank of the river, stream, or lake, and the associated riparian habitat. Specify the dimensions of the modifications in length (linear feet) and area (square feet or acres) and the type and volume of material (cubic yards) that will be moved, displaced, or otherwise disturbed, if applicable.

No effects to the beds, channels, or banks of Bear Creek or Mosher Slough are expected to occur as a result of project activities, as all work that will be conducted on the interior side of the levees. No riparian habitat occurs within the project limits.

☐ *Continued on additional page(s)*

B. Will the project affect any vegetation? ☑ Yes (*Complete the tables below*) ☐ No

Vegetation Type	Temporary Impact	Permanent Impact
Ruderal vegetation	Linear feet: ______ Total area: 45.16 acres	Linear feet: ______ Total area: 14.43 acres
	Linear feet: ______ Total area: ______	Linear feet: ______ Total area: ______

Tree Species	Number of Trees to be Removed	Trunk Diameter (range)

☐ *Continued on additional page(s)*

C. Are any special status animal or plant species, or habitat that could support such species, known to be present on or near the project site?

☑ Yes *(List each species and/or describe the habitat below)* ☐ No ☐ Unknown

Western burrowing owl have been documented on the dry land levee (see attached IS/MND)

☐ *Continued on additional page(s)*

D. Identify the source(s) of information that supports a "yes" or "no" answer above in Box 11.C.

CNDDB, LSA Associates, Inc. biological surveys (see attached IS/MND)

☐ *Continued on additional page(s)*

E. Has a biological study been completed for the project site?

☑ Yes (*Enclose the biological study*) ☐ No

Note: A biological assessment or study may be required to evaluate potential project impacts on biological resources.

F. Has a hydrological study been completed for the project or project site?

☑ Yes (*Enclose the hydrological study*) ☐ No

Note: A hydrological study or other information on site hydraulics (e.g., flows, channel characteristics, and/or flood recurrence intervals) may be required to evaluate potential project impacts on hydrology.

12. MEASURES TO PROTECT FISH, WILDIFE, AND PLANT RESOURCES

A. Describe the techniques that will be used to prevent sediment from entering watercourses during and after construction.

No pollutants will be introduced into either Bear Creek or Mosher Slough during construction activities; this issue will be addressed through measures designed to control construction-related pollution through Waste Discharge Requirements imposed through an NPDES General Construction Activity Stormwater Permit.

☐ *Continued on additional page(s)*

B. Describe project avoidance and/or minimization measures to protect fish, wildlife, and plant resources.

See Initial Study- Mitigated Negative Declaration, dated May 21, 2007, Exhibit A, Section 4. Biological Resources, page 28, attached.

☐ *Continued on additional page(s)*

C. Describe any project mitigation and/or compensation measures to protect fish, wildlife, and plant resources.

See Initial Study- Mitigated Negative Declaration, dated May 21, 2007, Exhibit A, Section 4. Biological Resources, page 28, attached.

☐ *Continued on additional page(s)*

13. PERMITS

List any local, state, and federal permits required for the project and check the corresponding box(es). Enclose a copy of each permit that has been issued.

A. California Regional Water Quality Control Board - Water Quality Certification ☑ Applied ☐ Issued

B. State Reclamation Board Encroachment Permit ☑ Applied ☐ Issued

C. ______________________ ☐ Applied ☐ Issued

D. Unknown whether ☐ local, ☐ state, or ☐ federal permit is needed for the project. (*Check each box that applies*)

☐ *Continued on additional page(s)*

14. ENVIRONMENTAL REVIEW

A. Has a draft or final document been prepared for the project pursuant to the California Environmental Quality Act (CEQA), National Environmental Protection Act (NEPA), California Endangered Species Act (CESA) and/or federal Endangered Species Act (ESA)?

☑ Yes *(Check the box for each CEQA, NEPA, CESA, and ESA document that has been prepared and enclose a copy of each)*

☐ No *(Check the box for each CEQA, NEPA, CESA, and ESA document listed below that will be or is being prepared)*

☐ Notice of Exemption	☑ Mitigated Negative Declaration	☐ NEPA document *(type)*: ________
☑ Initial Study	☐ Environmental Impact Report	☐ CESA document *(type)*: ________
☐ Negative Declaration	☑ Notice of Determination *(Enclose)*	☐ ESA document *(type)*: ________
☐ THP/ NTMP	☐ Mitigation, Monitoring, Reporting Plan	

B. State Clearinghouse Number *(if applicable)*	SCH 200705217		
C. Has a CEQA lead agency been determined?	☑ Yes *(Complete boxes D, E, and F)*	☐ No *(Skip to box 14.G)*	
D. CEQA Lead Agency	Reclamation District No. 2126		
E. Contact Person	Karen Garrett, AGS	F. Telephone Number	(209) 478-2200

G. If the project described in this notification is part of a larger project or plan, briefly describe that larger project or plan.

Trinity Parkway Extension at Bear Creek Bridge: The City of Stockton proposes to extend the Trinity Parkway south from the Bear Creek Bridge, approximately 0.45 mile along (and adjacent to) the western boundary of the Twin Creeks subdivision to intersect with Otto Drive.

Trinity Parkway Extension Phase 2: The City of Stockton proposes to extend Trinity Parkway south from Otto Drive and across Mosher Slough over a proposed bridge at the southeast corner of Atlas Tract.

☐ *Continued on additional page(s)*

H. Has an environmental filing fee (Fish and Game Code section 711.4) been paid?

☑ Yes *(Enclose proof of payment)* ☐ No *(Briefly explain below the reason a filing fee has not been paid)*

Note: If a filing fee is required, the Department may not finalize a Lake or Streambed Alteration Agreement until the filing fee is paid.

15. SITE INSPECTION

Check one box only.

☐ In the event the Department determines that a site inspection is necessary, I hereby authorize a Department representative to enter the property where the project described in this notification will take place at any reasonable time, and hereby certify that I am authorized to grant the Department such entry.

☑ I request the Department to first contact *(insert name)* Rick Harlacher, LSA Associates, Inc. at *(insert telephone number)* (916) 630-4600 to schedule a date and time to enter the property where the project described in this notification will take place. I understand that this may delay the Department's determination as to whether a Lake or Streambed Alteration Agreement is required and/or the Department's issuance of a draft agreement pursuant to this notification.

16. DIGITAL FORMAT

Is any of the information included as part of the notification available in digital format (i.e., CD, DVD, etc.)?

☑ Yes (Please enclose the information via digital media with the completed notification form)

☐ No

17. SIGNATURE

I hereby certify that to the best of my knowledge the information in this notification is true and correct and that I am authorized to sign this notification as, or on behalf of, the applicant. I understand that if any information in this notification is found to be untrue or incorrect, the Department may suspend processing this notification or suspend or revoke any draft or final Lake or Streambed Alteration Agreement issued pursuant to this notification. I understand also that if any information in this notification is found to be untrue or incorrect and the project described in this notification has already begun, I and/or the applicant may be subject to civil or criminal prosecution. I understand that this notification applies only to the project(s) described herein and that I and/or the applicant may be subject to civil or criminal prosecution for undertaking any project not described herein unless the Department has been separately notified of that project in accordance with Fish and Game Code section 1602 or 1611.

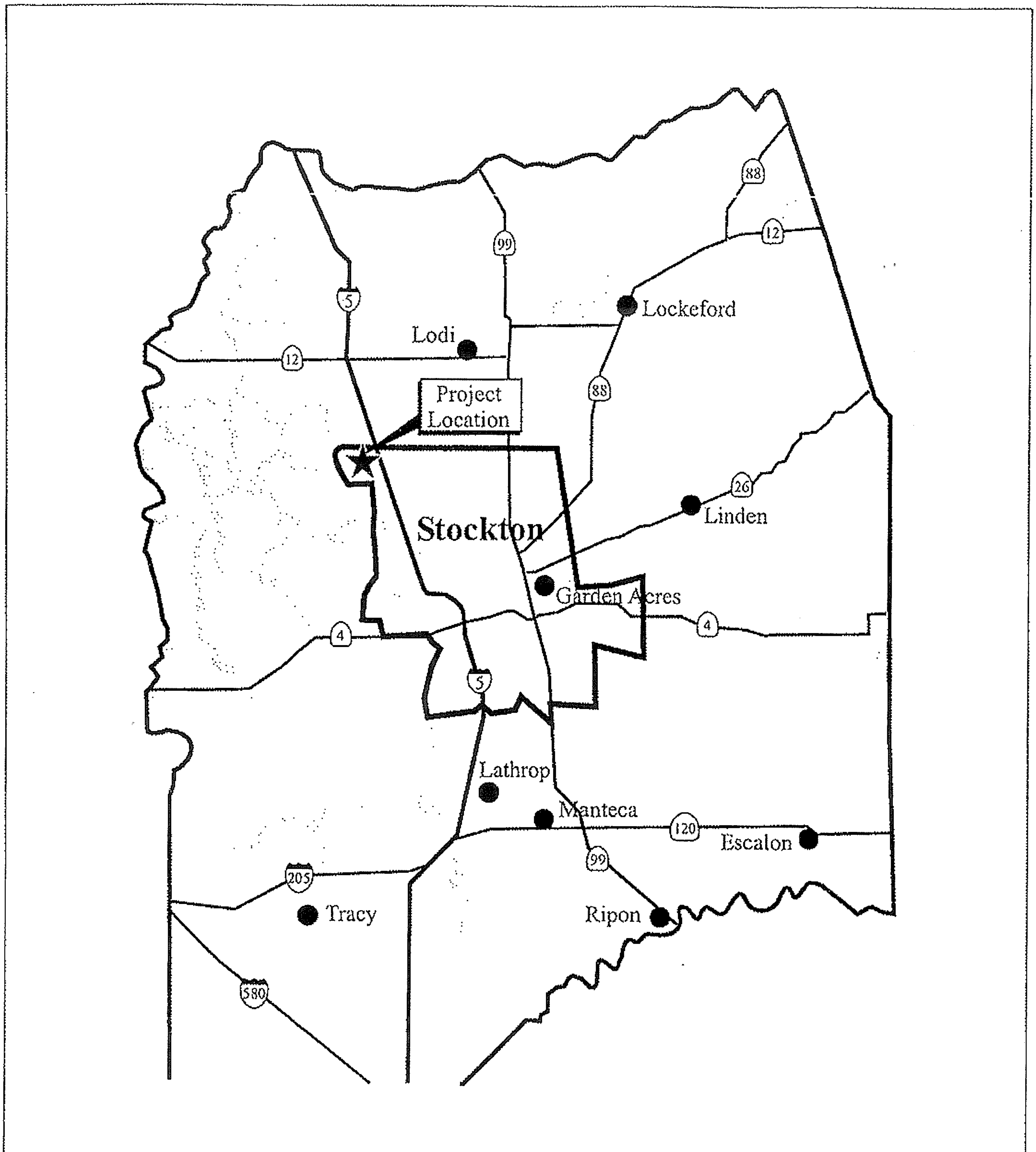
Karen Garrett — 8/6/07

Signature of Applicant or Applicant's Authorized Representative — Date

KAREN GARRETT

Print Name

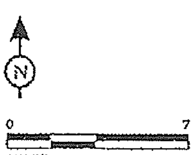
1600-2007-0345-3



LSA

FIGURE 1

Fish & Game
AUG 0 8 2007
Yountville



Atlas Tract

Regional Location

SOURCE: LSA ASSOCIATES, INC., 2004.

I:\AGS530\Graphics\Fig_1.cdr (07/07/05)

California Regional Water Quality Control Board
Central Valley Region
Karl E. Longley, ScD, P.E., Chair

Linda S. Adams
Secretary for Environmental Protection

Sacramento Main Office
11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • FAX (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

Arnold Schwarzenegger
Governor

2 October 2007

Mr. Gerald Sperry
Reclamation District No. 2126
10100 Trinity Parkway, 5th Floor
Stockton, CA 95219

ACTION ON REQUEST FOR CLEAN WATER ACT §401 WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE ATLAS TRACT DRY LAND LEVEE PROJECT, (WDID#5B39CR00136) SAN JOAQUIN COUNTY

ACTION:

1. ☐ Order for Standard Certification
2. ■ Order for Technically-conditioned Certification
3. ☐ Order for Denial of Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and §3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.

4. Certification is valid for the duration of the described project. Reclamation District Number 2126 shall notify the Regional Board in writing within 7 days of project completion.

ADDITIONAL CONDITIONS :

In addition to the four standard conditions, the applicant shall satisfy the following:

1. Reclamation District No. 2126 shall notify the Board in writing of the start of any in-water activities.

2. Except for activities permitted by the U.S. Army Corps under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

3. The discharge of petroleum products or other excavated materials to surface waters is prohibited.

4. Activities shall not cause turbidity increases in surface waters to exceed:

   (a) where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU;
   (b) where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
   (c) where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
   (d) where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

   Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

5. Activities shall not cause settleable matter to exceed 0.1 ml/l in surface waters as measured in surface waters 300 feet downstream from the project.

6. Activities shall not cause visible oil, grease, or foam in the work area or downstream.

7. All areas disturbed by project activities shall be protected from washout or erosion.

8. In the event that project activities result in the deposition of soil materials or creation of a visible plume in surface waters, the following monitoring shall be conducted immediately upstream and 300 feet downstream of the work site and the results reported to this office within two weeks:

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	NTU	Grab	Every 4 hours during in water work
Settleable Material	ml/l	Grab	Same as above.

9. Reclamation District No. 2126 shall notify the Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.

10. Reclamation District No. 2126 shall notify the Board immediately of any spill of petroleum products or other organic or earthen materials.

11. Reclamation District No. 2126 shall comply with all Department of Fish and Game 1600 requirements for the project.

12. Reclamation District No. 2126 must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board.

REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:

Patrick G. Gillum, Environmental Scientist
11020 Sun Center Drive #200
Rancho Cordova, California 95670-6114
(916) 464-4709
pgillum@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from Reclamation District No. 2126, Atlas Tract Dry Land Levee Project (WDID #5B39CR00136) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under Regional Board Resolution No. R5-2003-0008 "*Waiver of Reports of Waste Discharge and Waste Discharge Requirements for Specific Types of Discharge: Type 12 Projects for which Water Quality Certification is issued by the Regional Board,* " which requires compliance with all conditions of this Water Quality Certification.

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).

Jack E. DelConte for

PAMELA C. CREEDON
Executive Officer

Enclosure: Project Information

cc: U.S. Army Corps of Engineers, Sacramento
Mr. Dave Smith, Wetlands Section Chief (WTR-8), U.S. Environmental Protection Agency, Region 9, San Francisco
U.S. Fish & Wildlife Service, Sacramento
Mr. Bill Orme, 401 Certification and Wetlands Unit Chief, State Water Resources Control Board, Sacramento
Mr. Bill Jennings, CA Sportfishing Protection Alliance, Stockton
Mr. Rick Harlacher, LSA Associates, Inc., Rocklin

PROJECT INFORMATION

Application Date: 7 September 2007

Applicant: Mr. Gerald Sperry
Reclamation District No. 2126
10100 Trinity Parkway, 5th Floor
Stockton, CA 95219

Applicant Representatives: Mr. Rick Harlacher
LSA Associates, Inc.
4200 Rocklin Road, Suite 11B
Rocklin, CA 95677

Project Name: Atlas Tract Dry Land Levee Project

Application Number: WDID#5B39CR00136

US. Corps File Number:

Type of Project: Realignment of an existing levee

Project Location: Sections 7, and 12, Township 2 North, Ranges 5, and 6, East, MDB&M. Latitude: 38°02'30" and Longitude: 121°02'30".

County: San Joaquin County

Receiving Water(s) (hydrologic unit): Bear Creek, San Joaquin Hydrologic Basin, North Valley floor Hydrologic Unit #531.30, Lower Calaveras HA

Water Body Type: N/A

Designated Beneficial Uses: The Basin Plan for the Central Valley Regional Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND), Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

Project Description (purpose/goal): The Atlas Tract Dry Land Levee Project consists of the realignment of the existing dry land levee to accommodate the construction of a future 4-lane roadway that will extend from Trinity Parkway at the Bear Creek Bridge to Mosher Slough. Adjacent land uses include orchards to the south, natural open space to the northeast and residential development to the east.

Preliminary Water Quality Concerns: The construction activities may impact surface waters with increased turbidity and settleable matter.

Proposed Mitigation to Address Concerns: Reclamation District No. 2126 will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. Reclamation District No. 2126 will conduct turbidity and settleable matter testing during in water work, stopping work if Basin Plan criteria are exceeded or are observed.

Fill/Excavation Area: N/A

Dredge Volume: <0.0 cubic yards

U.S. Army Corps of Engineers Permit Number: Nationwide Permit #14

Department of Fish & Game Streambed Alteration Agreement: Reclamation District Number 2126 applied for a Streambed Alteration Agreement on 7 September 2007.

Possible Listed Species: None

Status of CEQA Compliance: The City of Stockton approved the Notice of Determination (Mitigated Negative Declaration) for this project on 2 August 2007. The Notice of Determination was signed by Senior Planner Mark Martin on 1 August 2007.

Compensatory Mitigation: N/A

Application Fee Provided: Total fees of $500.00 have been submitted as required by 23 CCR §3833b(2)(A) and by 23 CCR § 2200(e).

DISTRIBUTION LIST

U.S. Army Corp of Engineers
Regulatory Branch, Room 1480
Sacramento District Office
1325 J Street
Sacramento, CA 95814-2922

Mr. Dave Smith
Wetlands Section Chief (W-3)
United States Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

United States Fish & Wildlife Service
Sacramento Fish & Wildlife Office
2800 Cottage Way
Sacramento, CA 95825

Mr. Bill Orme
State Water Resources Control Board
401 Certification and Wetlands Unit Chief
P.O. Box 100
Sacramento, CA 95814

Mr. Bill Jennings
CA Sportfishing Protection Alliance
3536 Rainier Avenue
Stockton, CA 95204

Mr. Rick Harlacher
LSA Associates, Inc.
4200 Rocklin Road, Suite 11B
Rocklin, CA 95677

+S J C O G, Inc.

555 East Weber Avenue • Stockton, CA 95202

(209) 468-3913 • FAX (209) 468-1084

San Joaquin County Multi-Species Habitat Conservation & Open Space Plan (SJMSCP)

Atlas Tract Levee Improvement and Residential Development Project
APN: 071-170-05, 071-170-04, 071-170-02

SJMSCP Incidental Take Minimization Measures

Date: December 7, 2006

Findings: Potential occupied habitat for SJMSCP species occurs on the project site

Total Disturbed Acres Anticipated: 360 acres

Habitat Types to be Disturbed: Row/Field Crop (C34) = 356.758 acres
Ditch (D) = 3.219 acres;
Slough (W4) = 0.023 acre

Project Jurisdiction: San Joaquin County

Conditions

Prior to Ground Disturbance Activity for Phase 1(Levee Work):

Ditch and Slough Impacts:
Convey a commitment to provide a conservation easement for 9.73 acres at the Shin Kee tract and pay to SJCOG Inc. a one-time management fee of $ 632.34 per acre, for a total of $ 6,152.67. Applicant is to provide habitat restoration separately at applicant's expense.

Prior to Ground Disturbance Activity for Phase 2 (Residential Work):

Row/Field Crop Impacts:
Pay the appropriate Agricultural Habitat Fee to SJCOG Inc. based on 356.758 acres.

Prior to commencing ground disturbance:

5.2.4.8 Giant Garter Snake

A. Full avoidance of giant garter snake known habitat is required in compliance with Section 5.5.9 (C) for the following SJMSCP Covered Activities with the potential to adversely affect the GGS and which have not been mapped: golf courses; religious assembly; communication services; funeral; interment services; public services – police, fire, and similar; projects impacting channel or tule island habitat; major impact projects including landfills, hazardous waste facilities, correctional institutions, and similar major projects; recreational trails and campgrounds, recreational outdoor sport clubs; utility services, museums, and similar facilities. Known occupied habitat for the giant garter snake is that area west of I-5 on Terminous Tract, Shin Kee Tract, White Slough Wildlife Area, and Rio Blanco tract. New sites identified during the life of the SJMSCP as confirmed habitat sites for the giant garter snake shall be considered known occupied sites for the purpose of this section.

B. For areas with potential giant garter snake habitat, the following is required. Potential GGS habitat elements are described in SJMSCP Section 2.2.2.2 and exist in the *Primary Zone of the Delta* and the Central Zone contiguous with known occupied habitat in the White Slough area north to the San Joaquin/Sacramento County line and south to Paradise Cut; in the Central Zone east of Stockton in Duck Creek, Mormon Slough, Stockton Diverting Canal, Little John's Creek, Lone Tree Creek, and French Camp Slough (whenever habitat elements are present); and the Southern Central Zone and Southwest/Central Transition Zone including the area east of J4 from the Alameda-San Joaquin County line to Tracy and area south of Tracy and east of Interstate 580 to the edge of Agricultural Habitat Lands east of the San Joaquin River.

1. Construction shall occur during the active period for the snake, between May 1 and October 1. Between October 2nd and April 30th, the JAP, with the concurrence of the Permitting Agencies' representative on the TAC, shall determine if additional measures are necessary to minimize and avoid take.

2. Limit vegetation clearing within 200 feet of the banks of potential giant garter snake aquatic habitat to minimal area necessary.

3. Confine the movement of heavy equipment within 200 feet of the banks of potential giant garter snake aquatic habitat to existing roadways to minimize habitat disturbance.

4. Prior to ground disturbance, all on-site construction personnel shall be given instruction regarding the presence of SJMSCP Covered Species and the importance of avoiding impacts to these species and their habitats.

5. In areas where wetlands, irrigation ditches, marsh area or other potential giant garter snake habitats are being retained on the site:

    a) Install temporary fencing at the edge of the construction area and the adjacent wetland, marsh, or ditch;
    b) Restrict working areas, spoils, and equipment storage and other project activities to areas outside of marshes, wetlands, and ditches; and
    c) Maintain water quality and limit construction runoff into wetland areas through the use of hay bales, filter fences, vegetative buffer strips, or other accepted equivalents.

6. If on-site wetlands, irrigation ditches, marshes, etc. are being relocated in the vicinity; the newly created aquatic habitat shall be created and filled with water prior to dewatering and destroying pre-existing aquatic habitat. In addition, non-predatory fish species that exist in the aquatic habitat and which are to be relocated shall be seined and transported to the new aquatic habitat as the old site is dewatered.

7. If wetlands, irrigation ditches, marshes, etc. will not be relocated in the vicinity, then the aquatic habitat shall be dewatered at least two weeks prior to commencing construction.

8. Pre-construction surveys for the giant garter snake (conducted after completion of environmental reviews and prior to ground disturbance) shall occur within 24 hours of ground disturbance.

9. Other provisions of the *USFWS Standard Avoidance and Minimization Measures during Construction Activities in Giant Garter Snake Habitat* shall be implemented (excluding programmatic mitigation ratios which are superceded by the SJMSCP mitigation ratios).

5.2.4.10 Pond Turtle

When nesting areas for pond turtles are identified on a project site, a buffer area of 300 feet shall be established between the nesting site (which may be immediately adjacent to wetlands or extend up to 400 feet away from wetland areas in uplands) and the wetland located near the nesting site. These buffers shall be indicated by temporary fencing if construction has or will begin before nesting periods are ended (the period from egg laying to emergence of hatchlings is normally April to November).

5.2.4.11 Swainson's Hawk

The Project Proponent has the option of retaining known or potential Swainson's hawk nest trees (i.e., trees that hawks are known to have nested in within the past three years or trees, such as large oaks, which the hawks prefer for nesting) or removing the nest trees.

If the Project Proponent elects to retain a nest tree, and in order to encourage tree retention, the following Incidental Take Minimization Measure shall be implemented during construction activities:

> If a nest tree becomes occupied during construction activities, then all construction activities shall remain a distance of two times the dripline of the tree, measured from the nest.

If the Project Proponent elects to remove a nest tree, then nest trees may be removed between September 1 and February 15, when the nests are unoccupied.

5.2.4.14 Greater Sandhill Crane

Under normal conditions, the greater sandhill crane is found foraging in fields that are flooded, newly disced, cut, or irrigated during the fall migration of waterfowl along the Pacific Flyway. This species is highly mobile while they forage and can easily relocate to nearby foraging sites in the event of a disturbance to the foraging field. The risk of actually killing or harming (Taking) this species during SJMSCP Permitted Activities is therefore nearly non-existent. The threat to this species is more closely associated with removing habitat in sufficient quantities to create adverse impacts to populations of this species, an impact addressed by the SJMSCP through acquisition and enhancement of habitat (see Sections 5.4.4 and 5.4.6). Therefore Incidental Take Minimization Measures for the greater sandhill crane are not included in the SJMSCP and this is considered to be consistent with the provisions of the Migratory Bird Treaty Act.

5.2.4.15 Western Burrowing Owls

The presence of ground squirrels and squirrel burrows are attractive to burrowing owls. Burrowing owls may therefore be discouraged from entering or occupying construction areas by discouraging the presence of ground squirrels. To accomplish this, the Project Proponent should prevent ground squirrels from occupying the project site early in the planning process by employing one of the following practices:

A. The Project Proponent may plant new vegetation or retain existing vegetation entirely covering the site at a height of approximately 36" above the ground. Vegetation should be retained until construction begins. Vegetation will discourage both ground squirrel and owl use of the site.

B. Alternatively, if burrowing owls are not known or suspected on a project site and the area is an unlikely occupation site for red-legged frogs, San Joaquin kit fox, or tiger salamanders:

The Project Proponent may disc or plow the entire project site to destroy any ground squirrel burrows. At the same time burrows are destroyed, ground squirrels should be removed through one of the following approved methods to prevent reoccupation of the project site. Detailed descriptions of these methods are included in Appendix A, *Protecting Endangered Species, Interim Measures for Use of Pesticides in San Joaquin County,* dated March, 2000:

1. **Anticoagulants.** Establish bait stations using the approved rodenticide anticoagulants Chlorophacinone or Diphacinone. Rodenticides shall be used in compliance with U.S. Environmental Protection Agency label standards and as directed by the San Joaquin County Agricultural Commissioner.

2. **Zinc Phosphide.** Establish bait stations with non-treated grain 5-7 calendar days in advance of rodenticide application, then apply Zinc Phosphide to bait stations. Rodenticides shall be used in compliance with U.S. Environmental Protection Agency label standards and as directed by the San Joaquin County Agricultural Commissioner.

3. **Fumigants.** Use below-ground gas cartridges or pellets and seal burrows. Approved fumigants include Aluminum Phosphide (Fumitoxin, Phostoxin) and gas cartridges sold by the local Agricultural Commissioner's office. NOTE: Crumpled newspaper covered with soil is often an effective seal for burrows when fumigants are used. Fumigants shall be used in compliance with U.S. Environmental Protection Agency label standards and as directed by the San Joaquin County Agricultural Commissioner.

4. **Traps.** For areas with minimal rodent populations, traps may be effective for eliminating rodents. If trapping activities are required, the use of , shall be consistent with all applicable laws and regulations.

If the measures described above were not attempted or were attempted but failed, and burrowing owls are known to occupy the project site, then the following measures shall be implemented:

A. During the non-breeding season (September 1 through January 31) burrowing owls occupying the project site should be evicted from the project site by passive relocation as described in the California Department of Fish and Game's Staff Report on Burrowing Owls (Oct., 1995)

B. During the breeding season (February 1 through August 31) occupied burrows shall not be disturbed and shall be provided with a 75 meter protective buffer until and unless the TAC, with the concurrence of the Permitting Agencies' representatives on the TAC; or unless a qualified biologist approved by the Permitting Agencies verifies through non-invasive means that either: 1) the birds have not begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed.

5.2.4.16 Colonial Nesting Birds (Tricolored Blackbird, Black-Crowned Night Heron, Great Blue Heron)

Acquisition of colonial nesting sites for these species is a high priority of the SJMSCP. Project proponents shall be informed of avoidance measures which eliminate compensation requirements for disturbance of colonial nesting areas in project design, as described in Section 5.5.9. If the Project Proponent rejects acquisition and avoidance, pursuant to Section 5.5.9, then the following Incidental Take Minimization Measure shall apply:

A setback of 500 feet from colonial nesting areas shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledgling leave the nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests that are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.

5.2.4.18 Birds Nesting in Isolated Trees or Shrubs Outside of Riparian Areas (Sharp-Shinned Hawk, Yellow Warbler, Loggerhead Shrike

A setback of 100 feet from nesting areas shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests, which are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.

5.2.4.19 Birds Nesting Along Riparian Corridors (Cooper's Hawk, Yellow-Breasted Chat, Osprey, White-Tailed Kite)

A. For white-tailed kites, preconstruction surveys shall investigate all potential nesting trees on the project site (e.g., especially tree tops 15-59 feet above the ground in oak, willow, eucalyptus, cottonwood, or other deciduous trees), during the nesting season (February 15 to September 15) whenever white-tailed kites are noted on site or within the vicinity of the project site during the nesting season.

B. For the Cooper's hawk, yellow-breasted chat, osprey and white-tailed kite, a setback of 100 feet from nesting areas shall be established and maintained during the nesting season for the period encompassing nest building and continuing until fledglings leave nests. This setback applies whenever construction or other ground-disturbing activities must begin during the nesting season in the presence of nests which are known to be occupied. Setbacks shall be marked by brightly colored temporary fencing.

5.2.4.22 Ferruginous Hawk, Mountain Plover, Merlin, Long-Billed Curlew

These species currently do not nest in the County and are not expected to nest in the County over the life of the Plan. Therefore, in the highly unlikely event that one of these species is found nesting on a project site, Incidental Take Minimization Measures shall be formulated prior to ground disturbance by the TAC and approved by the JPA with the concurrence of the Permitting Agencies' representatives on the TAC in accordance with the SJMSCP's Adaptive Management Plan (Section 5.9.4).

5.2.4.29 Plants

Plant species addressed under SJMSCP were not observed in the project area, therefore there are no known impacts to plants.

5.2.4.30 SJMSCP Covered Fish

Impacts to fish are addressed under the SJMSCP primarily through Incidental Take Minimization Measures; SJMSCP Permitted Activities are not expected to significantly alter habitats of SJMSCP Covered Fish Species.

Incidental Take Minimization measures for SJMSCP Covered Fish are the same as those included for protection of riparian habitats in SJMSCP Section 5.2.4.31, except that, pursuant to Section 5.7(5) for Aggregate Mining Activities, project Proponents are required to consult with Permitting Agencies on a case-by-case basis during SMARA permitting process to design minimization measures to reduce effects of stranding of the SJMSCP Covered Fish Species during mining activities.

During project construction:

1. All food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from the construction site.

I have read, acknowledge, and agree to the preceding conditions:

______________________________________ ________________

For Spanos Company Date

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

June 29, 2005

Neal Captain
LSA Associates
157 Park Place
Pt. Richmond, CA 94801

Sent by Fax: 510-236-3480
Number of Pages: 2

RE: Proposed Atlas Tract Levee Evaluation, Stockton, San Joaquin County

Dear Mr. Captain:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
San Joaquin County
June 29, 2005

Katherine Erolinda Perez
1234 Luna Lane
Stockton , CA 95206
canutes@comcast.net
(209) 462-2680

Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

Ione Band of Miwok Indians
Glen Villa, Jr. Cultural Committee Chairperson
415 Oak Street
Ione , CA 95640
gvilla@cwo.com
916-322-1617 w
209-274-5535 FAX

Miwok

Ione Band of Miwok Indians
Pamela Baumgartner, Tribal Administrator
PO Box 1190
Ione , CA 95640
admin@ionemiwok.org
(209) 274-6753
(209) 274-6636 Fax

Miwok

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resource assessment for the proposed Atlas Tract Levee Evaluation, Stockton, San Joaquin County.

CENTRAL CALIFORNIA INFORMATION CENTER
California Historical Resources Information System
Department of Anthropology - California State University, Stanislaus
801 W. Monte Vista Avenue, Turlock, California 95382
(209) 667-3307 - FAX (209) 667-3324

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

RECEIVED
JUN 30 2005
LSA ASSOCIATES INC.
PT RICHMOND OFFICE

Date: 6/28/2005

CCIC File #: 5814L
Project: Atlas Tract Levee Evaluation, Stockton, San Joaquin County, CA
LSA Project #AGS434

Neal Kaptain, Cultural Resources Manager
LSA Associates, Inc.
157 Park Place
Pt. Richmond, CA 94801

Dear Mr. Kaptain:

We have conducted a records search as per your request for the above-referenced project area located on the Lodi South and Terminous USGS 7.5-minute quadrangle maps in San Joaquin County.

Search of our files includes review of our maps for the specific project area and a one-quarter mile radius of the project area (as specified by the client), and review of the National Register of Historic Places, the California Register of Historical Resources, the *California Inventory of Historic Resources* (1976), the *California Historical Landmarks* (1996), and the *California Points of Historical Interest* listing (May 1992 and updates), the Historic Property Data File (Office of Historic Preservation current computer list dated 05-02-2005), the *CALTRANS State and Local Bridge Survey* (1989 and updates), the *Survey of Surveys* (1989), GLO Plats, and other pertinent historic data available at the CCIC for each specific county.

The following details the results of the records search:

Prehistoric or historic resources within the project area:

(1) No formally recorded archaeological or historical resources within the project area.

(2) Owens (1991:101; *Sacramento-San Joaquin Delta, California, Historical Resources Overview, Appendix I*) references the Atlas Tract as also known as the "Harland Tract."

(3) The GLO Plats for T3N R5E (Sheet 41-201, dated 1853-1907) and T3N R6E (Sheet

41-202, dated 1853-1907) show the project area divided into 40, 80 and 160 acre parcels.

(4) Map Number One in *History of San Joaquin County, California, with Illustrations* (1879; 1968 reproduction) references the project area within the Union Township, but does not show the location of any historic ranches.

Prehistoric or historic resources within a one-quarter mile radius of the project area:

(1) Prehistoric archaeological site P-39-000269/CA-SJO-151 is north of the project area. See also CCIC Reports SJ-743, 778, and 812 (referenced below) describing investigations at this site.

(2) The GLO Plat for T3N R5E (Sheet 41-201, dated 1853-1907) references "Sargent's Barn and House", and fences.

(3) *California Department of Transportation Historical Significance-State Bridges, San Joaquin County* (8-2-2000:243) references Bridge 29-0200L/29-200R, Interstate 5 over Pixley Slough as not eligible for the National Register of Historic Places.

Resources known to have value to local cultural groups: None reported to the Information Center.

Previous investigations within the project: The project has been subject to previous investigation, reported upon by Napton (1989), CCIC Report #SJ-781.

Previous investigations within a one-quarter mile radius of the project area: Seven investigations have been conducted, referenced as follows:

CCIC Report #	Author/Date
SJ-727	Chavez (1978)
SJ-743	Fredrickson (1991)
SJ-778	Napton (1987)
SJ-812	Napton (1987)
SJ-845	Werner (1987)
SJ-3129	Busby (1996)
SJ-3130	Busby (1997)

Comments: In accordance with State law, if any historical resources are found during construction, work is to stop and the lead agency and a qualified professional are to be consulted to determine the importance and appropriate treatment of the find.

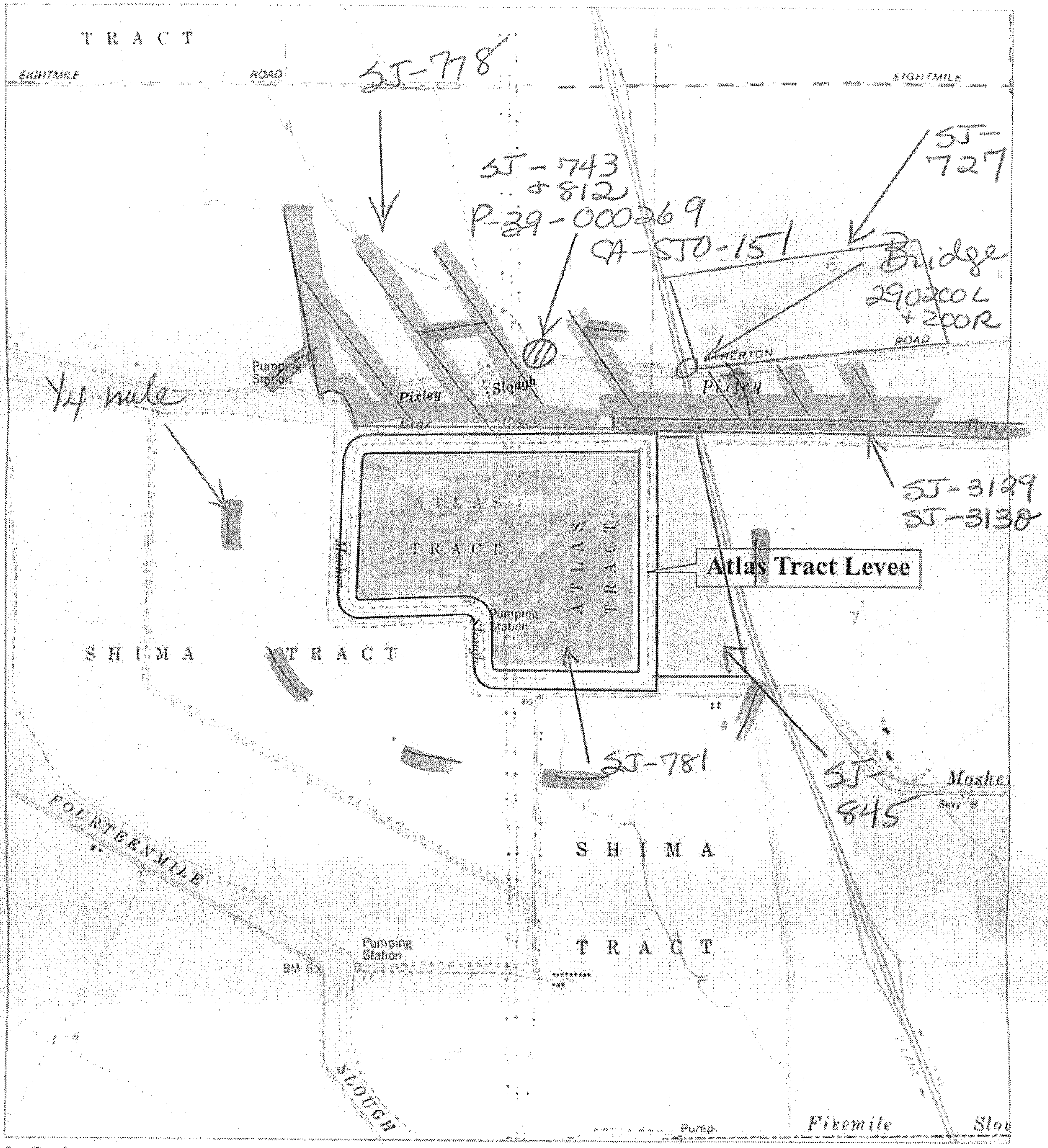
We understand that you will be conducting an evaluation for a cultural resource that is the subject of this records search. We look forward to receiving one copy of your report of findings.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Please sign and return the attached *Agreement of Confidentiality* form. Billing is attached, payable within 60 days of receipt of the invoice.

Sincerely,

E. A. Greathouse

E. A. Greathouse, Coordinator
Central California Information Center
California Historical Resources Information System



LSA

FIGURE 2

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

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CCIC 5814L

LSA

LSA ASSOCIATES, INC.
4200 ROCKLIN ROAD, SUITE 11B
ROCKLIN, CALIFORNIA 95677

916.630.4600 TEL
916.630.4603 FAX

OTHER OFFICES: BERKELEY IRVINE FT. COLLINS PT. RICHMOND RIVERSIDE

July 31, 2007

Mr. Mike Jewell
Chief, Regulatory Branch
Corps of Engineers
1325 J Street
Sacramento, CA 95814

Subject: Determination of the Need for Corps Permits for the Realignment of the Atlas Tract Dry Land Levee - City of Stockton, California

Dear Mr. Jewell,

On behalf of our client, Reclamation District 2126, and at the express request of the California Reclamation Board (Reclamation Board), we are hereby requesting a written determination from the Army Corps of Engineers (Corps) as to whether or not the realignment of the Atlas Tract Dry Land Levee is subject to Corps permitting requirements under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act. Although Reclamation District 2126 does not believe that Corps permits are required since no waters subject to Corps jurisdiction would be affected by the project, the Reclamation Board is requiring that Reclamation District 2126 pursue this determination to support their issuance of an encroachment permit for the project (Reclamation Board Permit Application No. 18257 GM).

A jurisdictional waters delineation that includes the project area was previously submitted and verified by the Corps on April 13, 2006 (Atlas Tract Levee and Residential Project, File No. 200600224). A copy of the verified delineation map showing the location of the proposed levee project is enclosed along with the Corps verification letter.

Please do not hesitate to contact me if you have any questions regarding this request.

Sincerely,

LSA ASSOCIATES, INC.

Rick Harlacher
Principal

Attachments:
Verified delineation map with Levee Project Limits
Corps Verification Letter

cc: Karen Garrett, Reclamation District 2126 (w/out report attachments)
Jim Panagopoulos, A.G. Spanos Trust (w/out report attachments)
Brendan McLaughlin, Mid-Valley Engineering (w/out report attachments)

LSA | LSA ASSOCIATES, INC
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510.236.3480 FAX
BERKELEY
FT COLLINS
IRVINE
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

July 8, 2005

Pamela Baumgartner
Tribal Administrator
Ione Band of Miwok Indians
P.O. Box 1190
Ione, California 95640

Subject: Atlas Tract Levee Evaluation, Stockton. San Joaquin County, California
LSA Project #AGS434

Dear Ms. Baumgartner:

The A.G. Spanos Companies is proposing the development of a residential housing project which might affect the levee surrounding the Atlas Tract, Stockton, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. The study area is west of Interstate 5 and south of Eight Mile Road in unsectioned land, Township 2 North and Range 5 East, Mount Diablo Baseline and Meridian, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, 7.5-minute topographic quadrangles.

Please notify us if you have any concerns about the study area. To reach us, please contact me at the address and phone number above or via email at <neal.kaptain@lsa-assoc.com>. I look forward to hearing from you. Thank you.

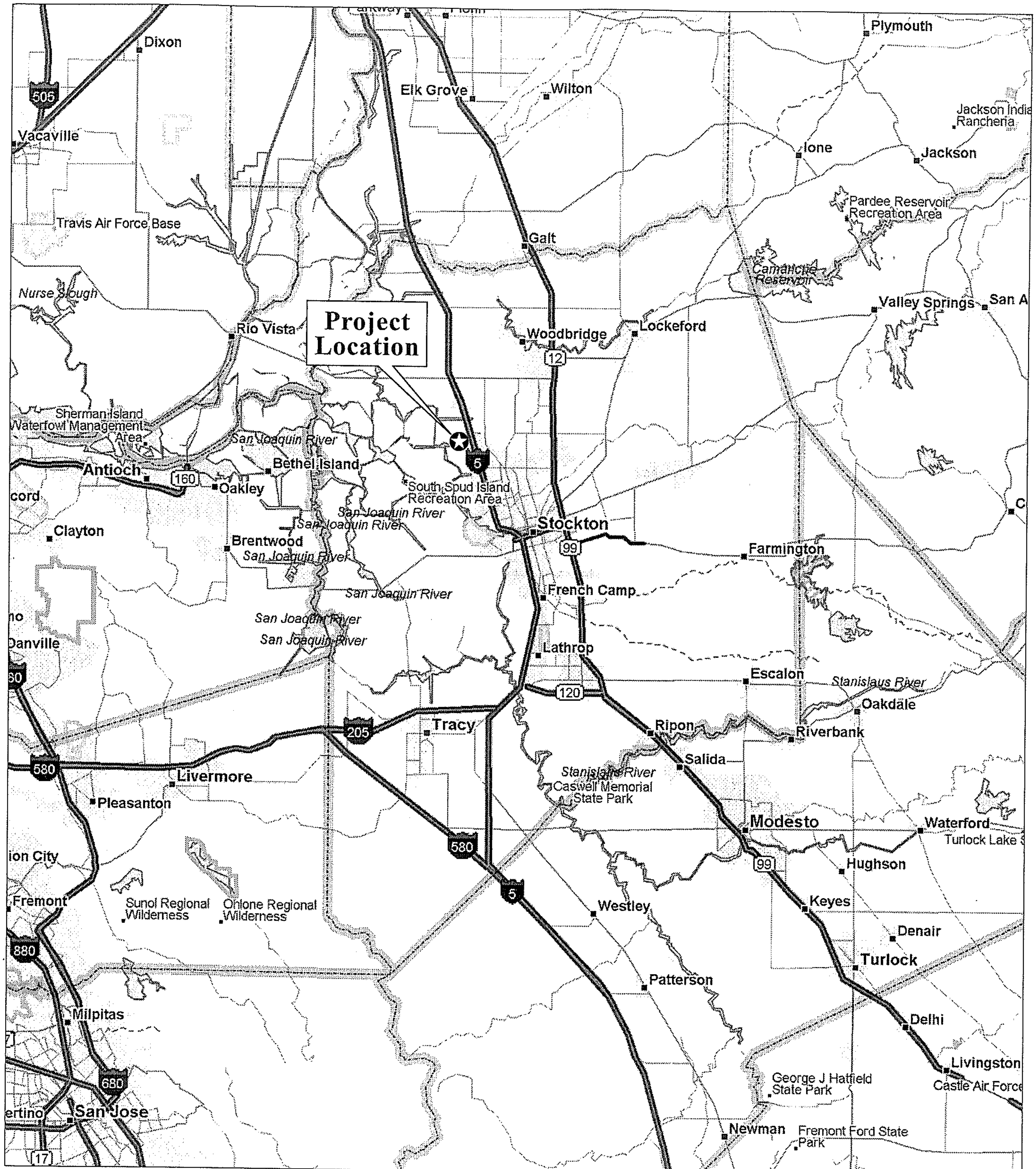
Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager

P:\AGS434\Cultural\Levee Evaluation\Letters\Paula Baumgartner.wpd (7/8/05)



LSA

FIGURE 1

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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MILES

SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

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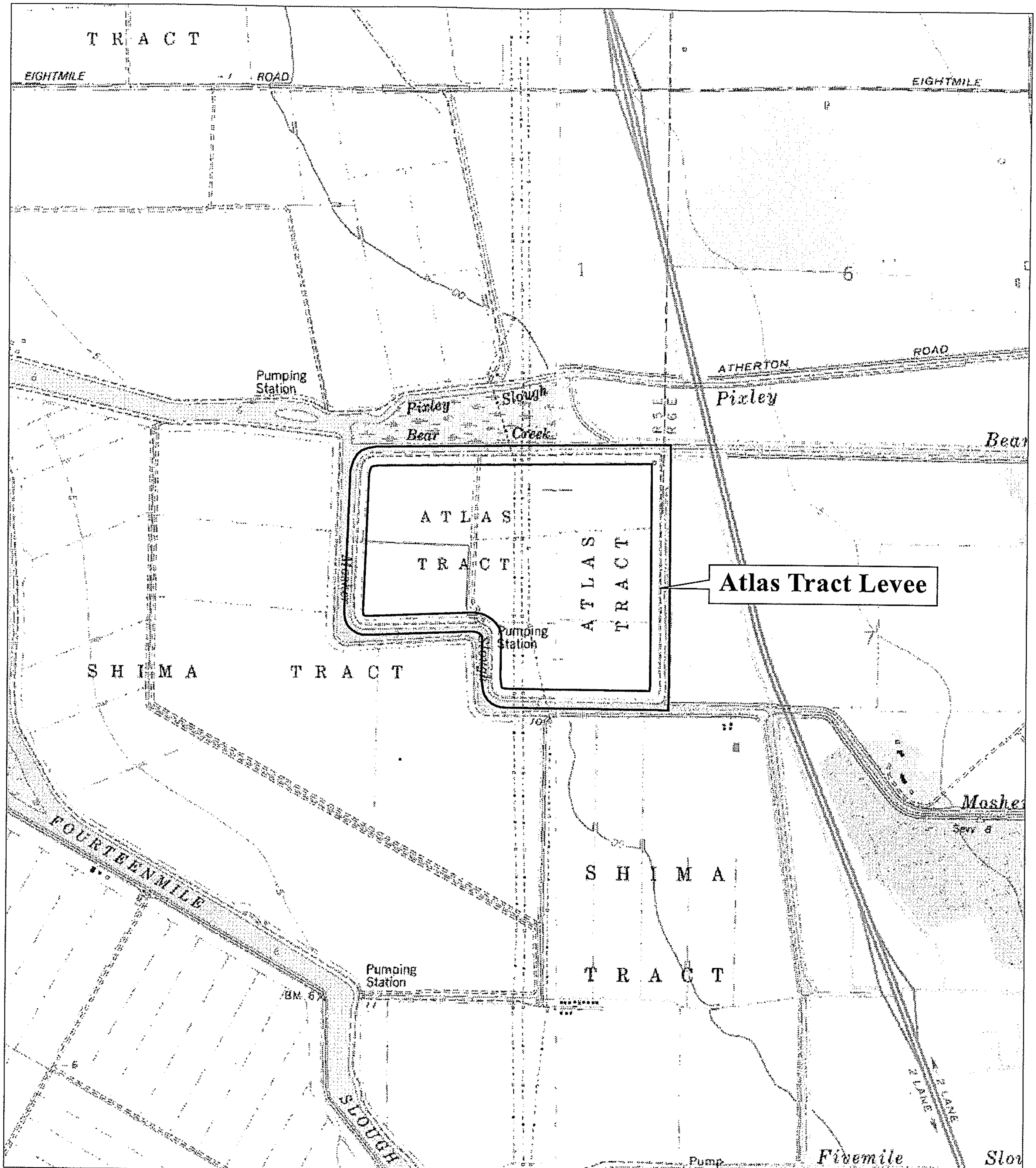

LSA

FIGURE 2

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Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

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SAN LUIS OBISPO

July 8, 2005

Glenn Villa, Jr.
Cultural Committee Chairperson
Ione Band of Miwok Indians
415 Oak Street
Ione, California 95640

Subject: Atlas Tract Levee Evaluation, Stockton, San Joaquin County, California
LSA Project #AGS434

Dear Mr. Villa:

The A.G. Spanos Companies is proposing the development of a residential housing project which might affect the levee surrounding the Atlas Tract, Stockton, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. The study area is west of Interstate 5 and south of Eight Mile Road in unsectioned land, Township 2 North and Range 5 East, Mount Diablo Baseline and Meridian, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, 7.5-minute topographic quadrangles.

Please notify us if you have any concerns about the study area. To reach us, please contact me at the address and phone number above or via email at <neal.kaptain@lsa-assoc.com>. I look forward to hearing from you. Thank you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager

9/10/01(P:\AGS434\Cultural\Levee Evaluation\Letters\Glenn Villa.wpd)

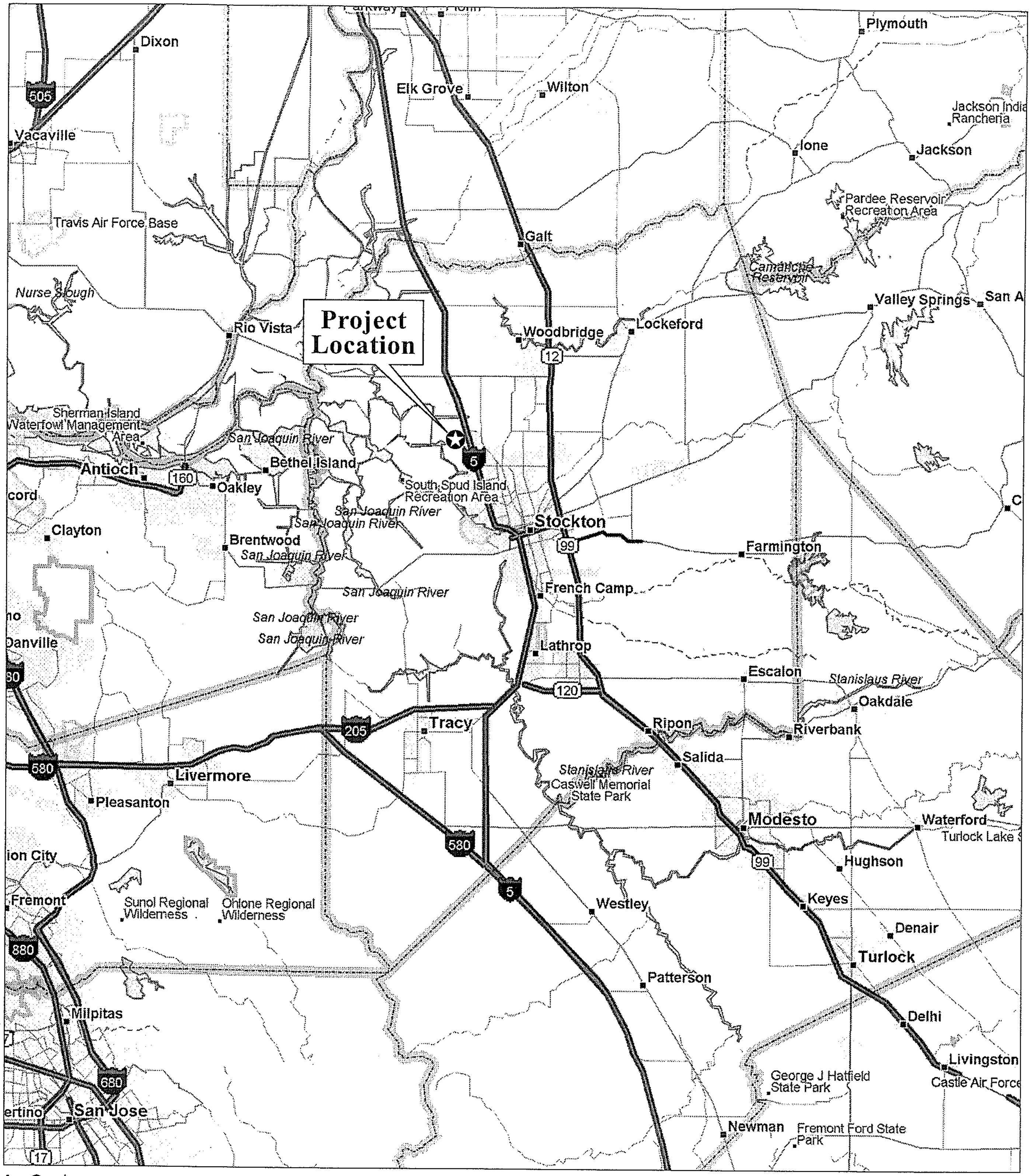

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FIGURE 1

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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MILES

SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

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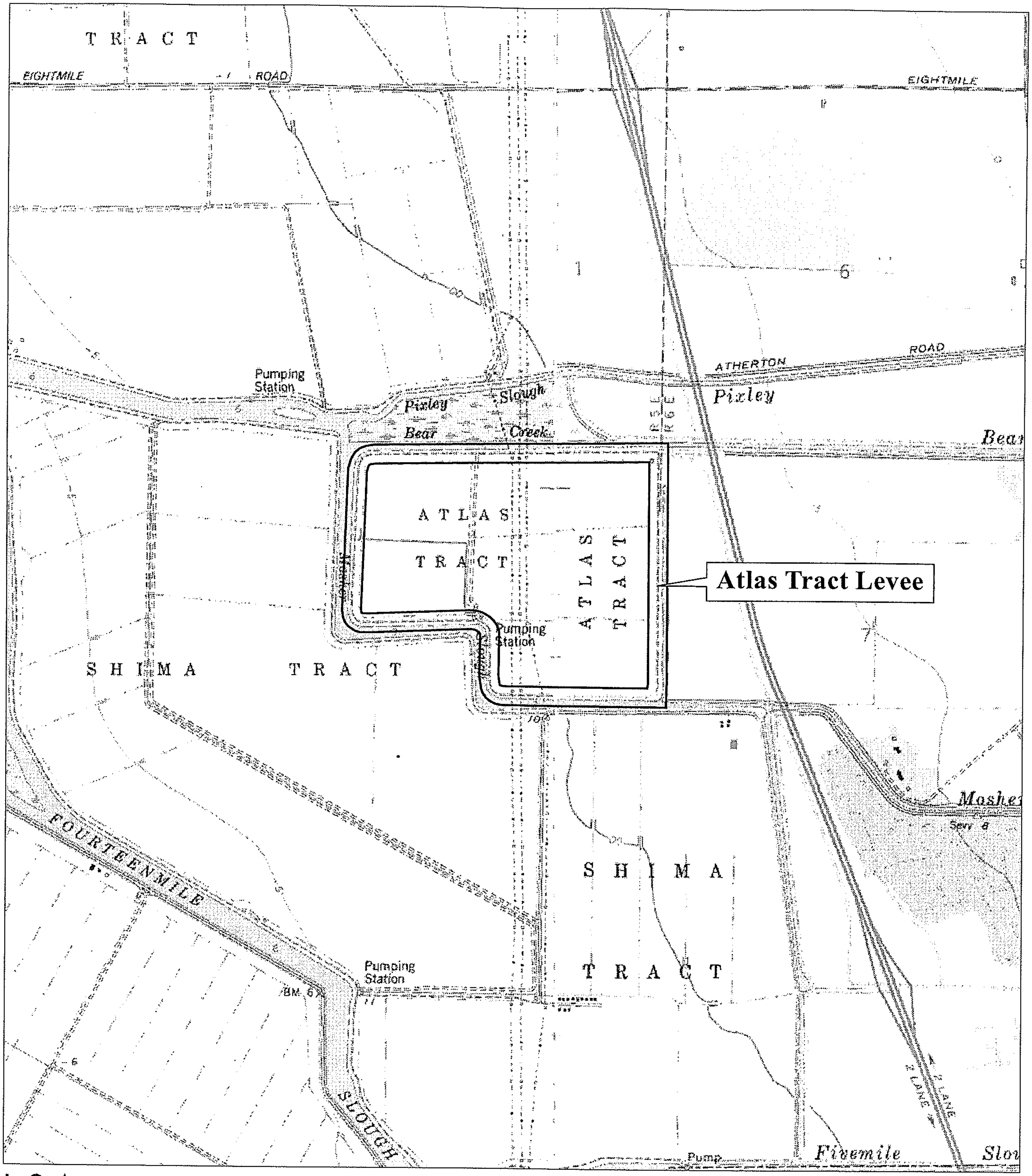

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FIGURE 2

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

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SAN LUIS OBISPO

June 22, 2005

Larry Myers
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, California 95814

Subject: Atlas Tract Levee Evaluation, Stockton, San Joaquin County, California
LSA Project #AGS434

Dear Mr. Myers:

The A.G. Spanos Companies is proposing the development of a residential housing project which may affect the levee surrounding the Atlas Tract, Stockton, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. Please review the sacred lands files for any Native American cultural resources that may be within or adjacent to the project area. The project area is in unsectioned lands west of Interstate 5, in northwestern Stockton, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, 7.5-minute topographic maps.

We also request a list of Native American individuals and organizations who may have knowledge of cultural resources in the project area. Please notify us if you have any information or concerns. Please contact me at the address and phone number above or via e-mail (neal.kaptain@lsa-assoc.com). We look forward to hearing from you. Thank you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager

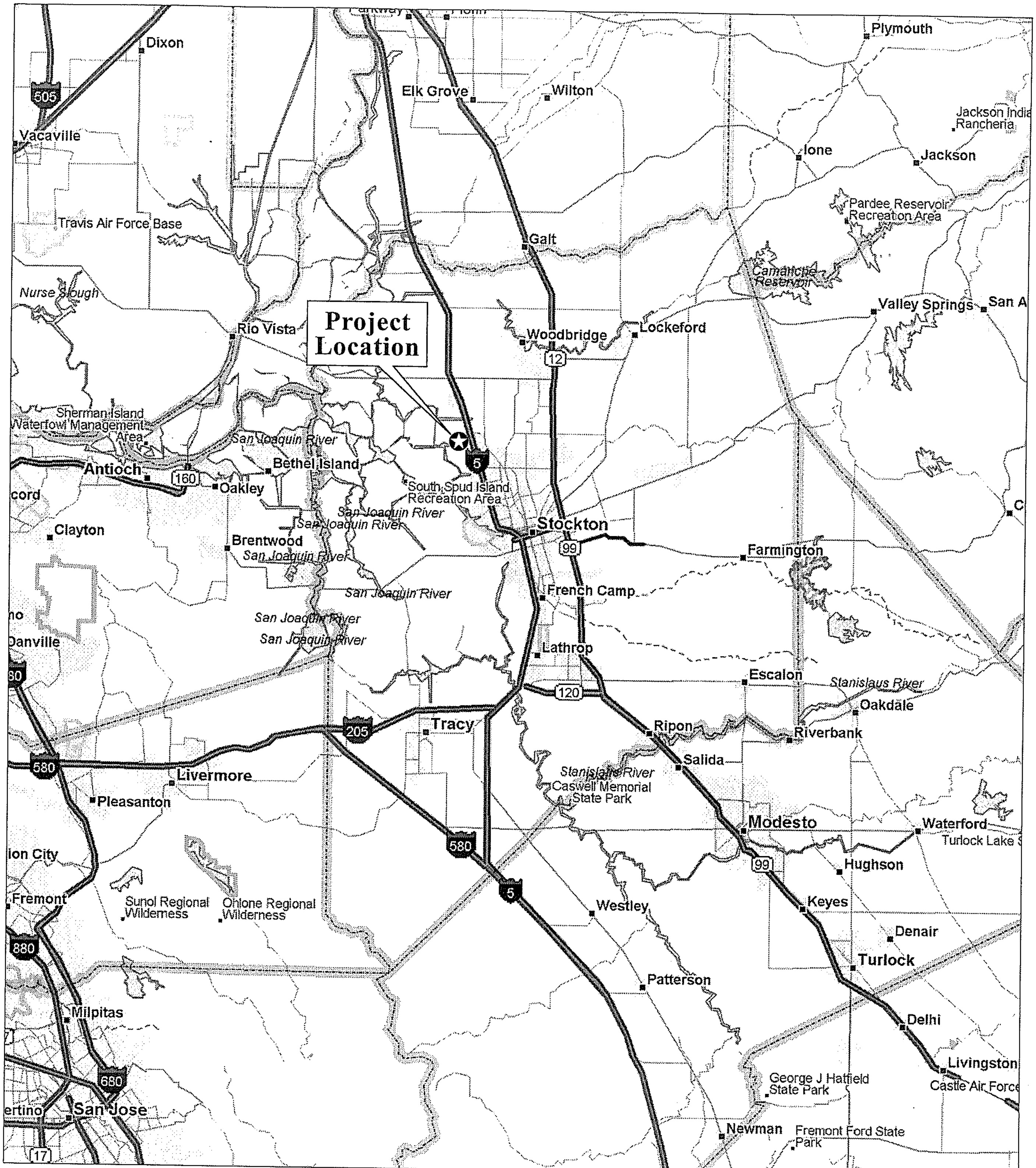

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FIGURE 1

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

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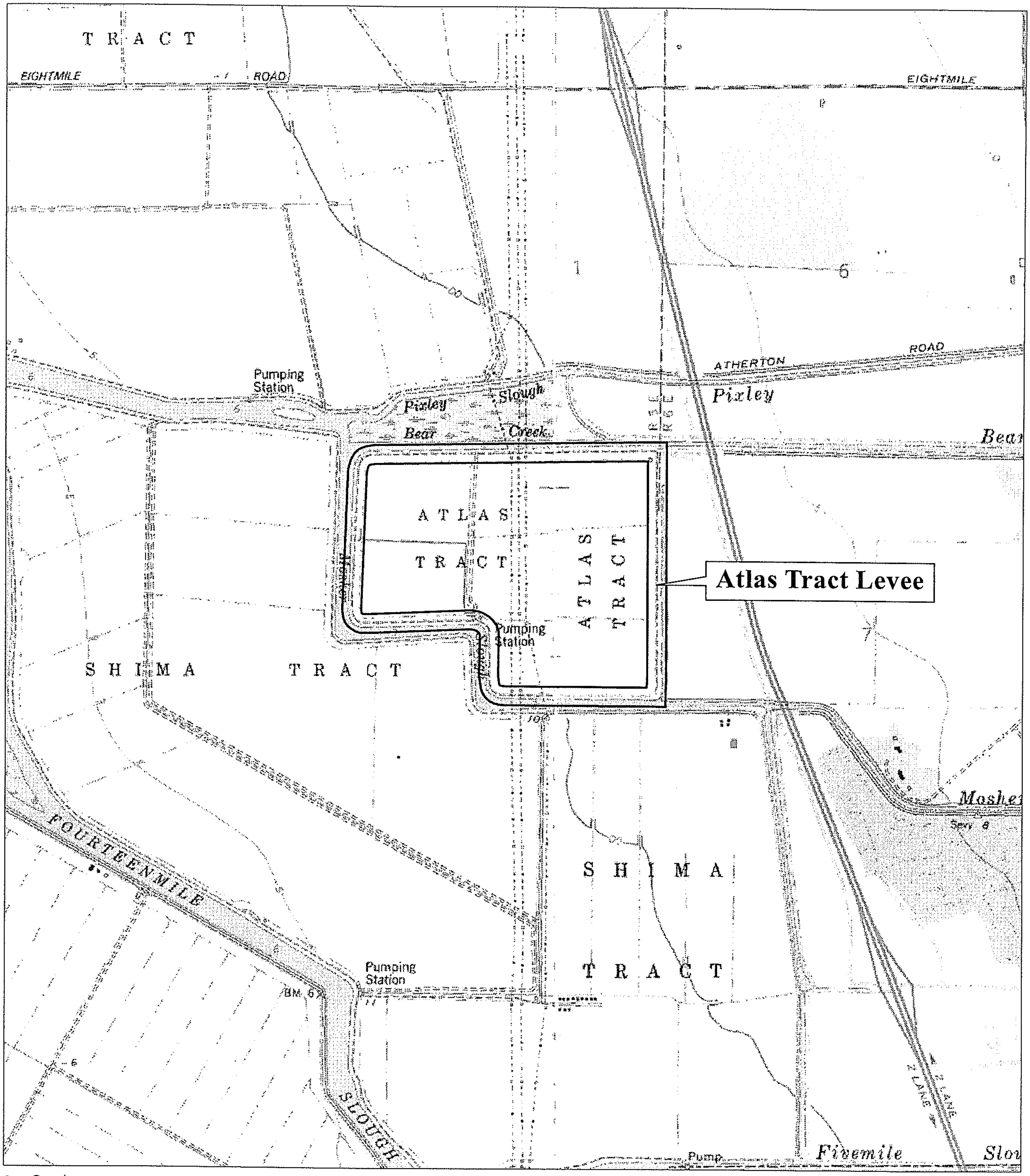

LSA

FIGURE 2

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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FEET

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

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ROCKLIN
SAN LUIS OBISPO

June 22, 2005

Ms. Elizabeth Greathouse, Coordinator
Central California Information Center
Department of Anthropology
California State University, Stanislaus
801 W. Monte Vista Avenue
Turlock, California 95382

Subject: Atlas Tract Levee Evaluation, Stockton, San Joaquin County, California
LSA Project #AGS434

Dear Ms. Greathouse:

Please conduct a records search of the above referenced project area and a ¼-mile radius as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, topographic quadrangles. Please provide copies of all reports and site records within the records search area and the Historic Properties Data listings that are appropriate to our geographic location.

If you have any questions or concerns, you can contact me at the address and phone number above, or via e-mail at <neal.kaptain@lsa-assoc.com>. I look forward to hearing from you. Thank you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager

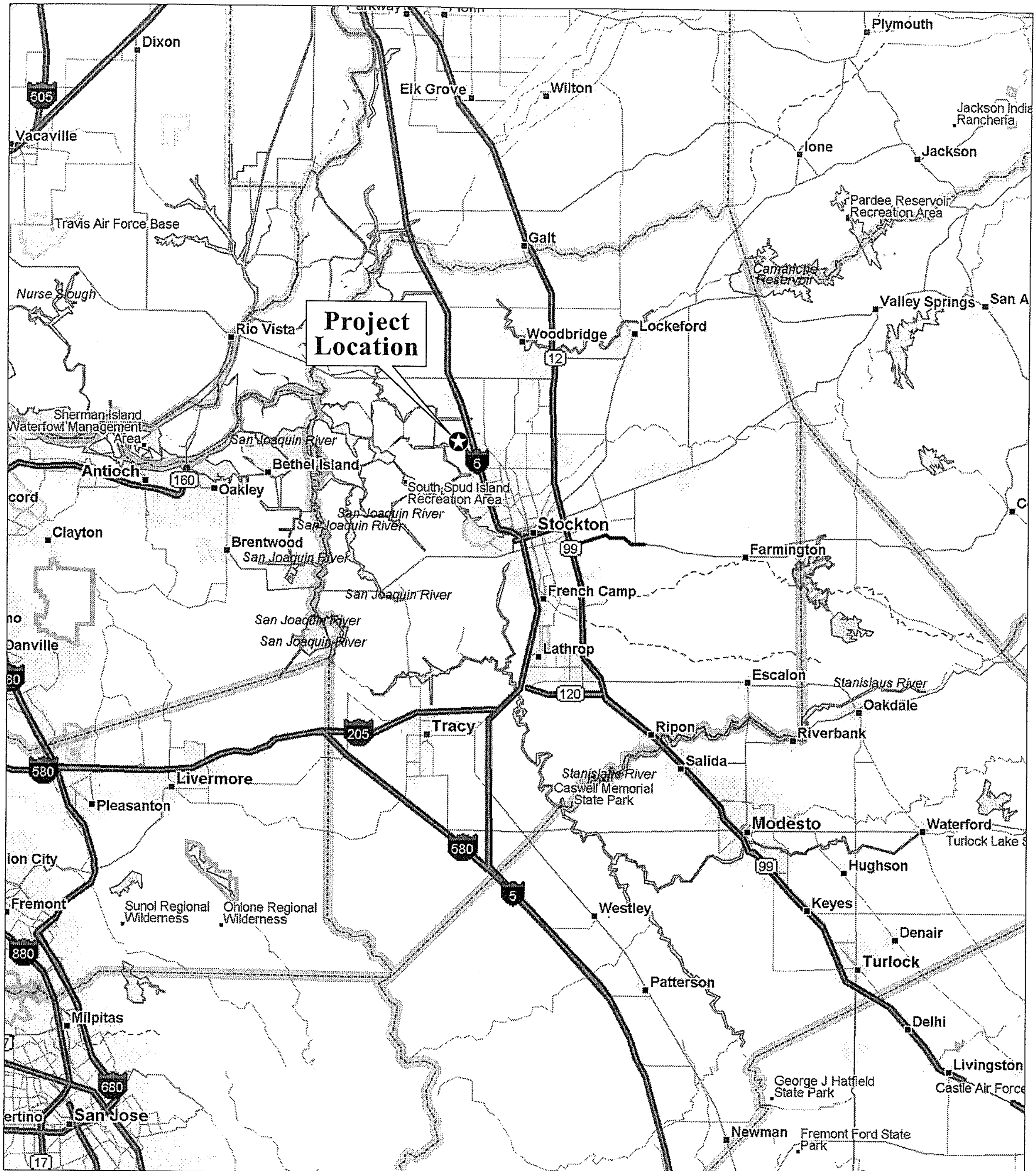

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FIGURE 1

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

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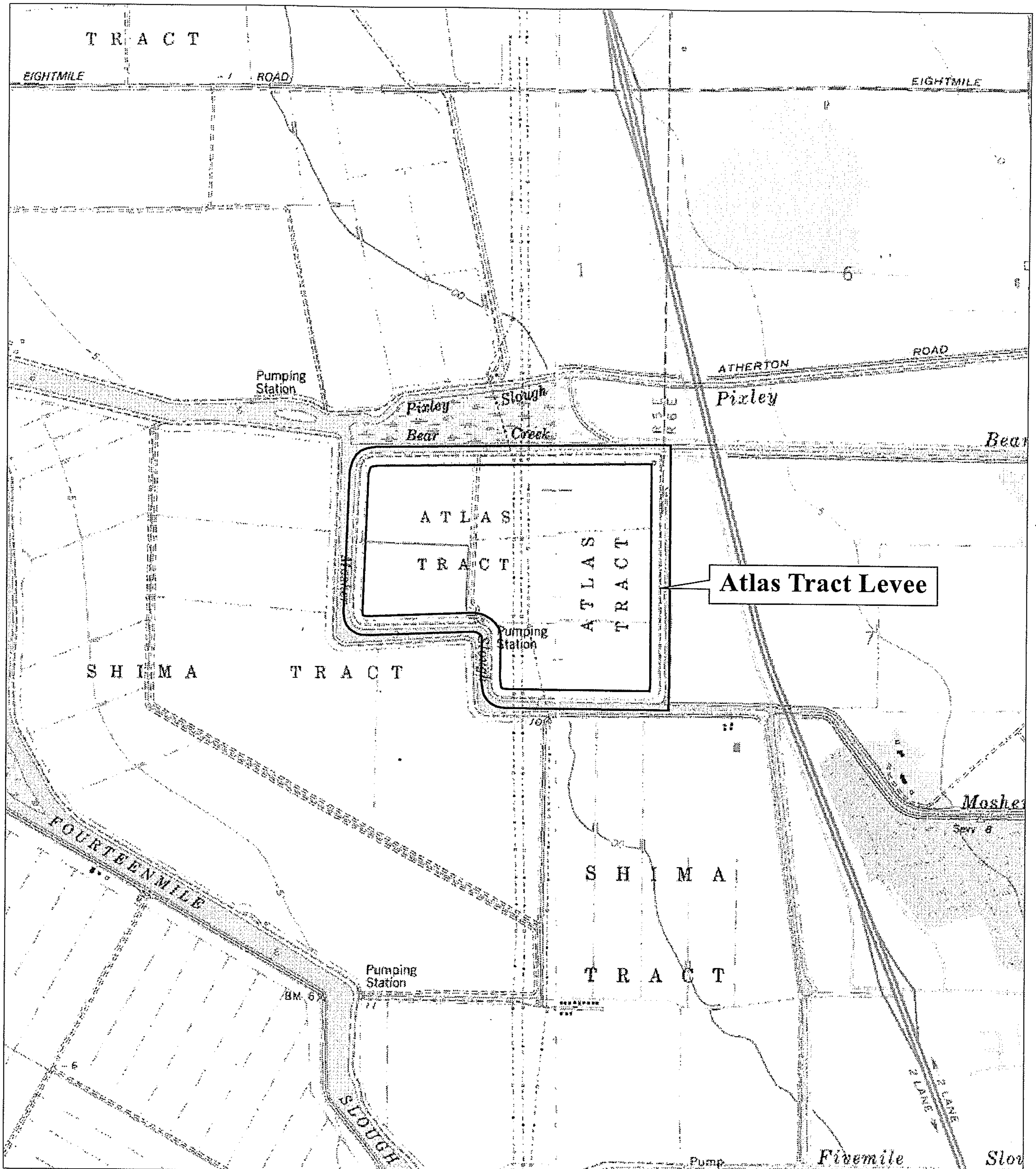

LSA

FIGURE 2

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

P:\AGS434\g\ProjLocAtlasTractLevee.cdr (6/22/05)

LSA | LSA ASSOCIATES, INC
157 PARK PLACE
PT. RICHMOND, CALIFORNIA 94801
510.236.6810 TEL
510.236.3480 FAX
BERKELEY
FT. COLLINS
IRVINE
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

July 8, 2005

Katherine Erolinda Perez
1234 Luna Lane
Stockton, California 95206

Subject: Atlas Tract Levee Evaluation, Stockton, San Joaquin County, California
LSA Project #AGS434

Dear Ms. Perez:

The A.G. Spanos Companies is proposing the development of a residential housing project which might affect the levee surrounding the Atlas Tract, Stockton, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. The study area is west of Interstate 5 and south of Eight Mile Road in unsectioned land, Township 2 North and Range 5 East, Mount Diablo Baseline and Meridian, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, 7.5-minute topographic quadrangles.

Please notify us if you have any concerns about the study area. To reach us, please contact me at the address and phone number above or via email at <neal.kaptain@lsa-assoc.com>. I look forward to hearing from you. Thank you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager

9/10/01(P:\AGS434\Cultural\Levee Evaluation\Letters\Kathy Perez 2.wpd)

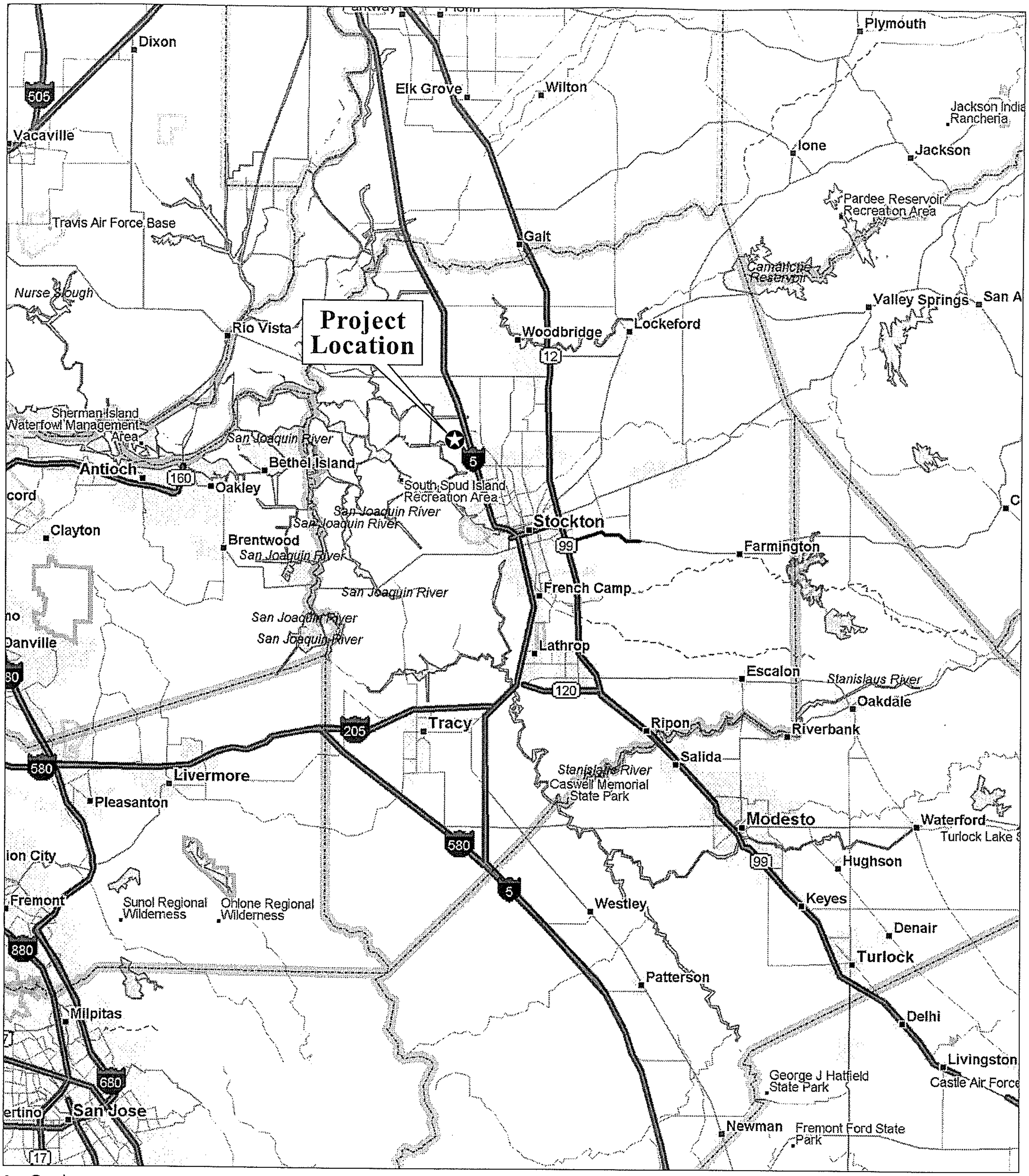

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FIGURE 1

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

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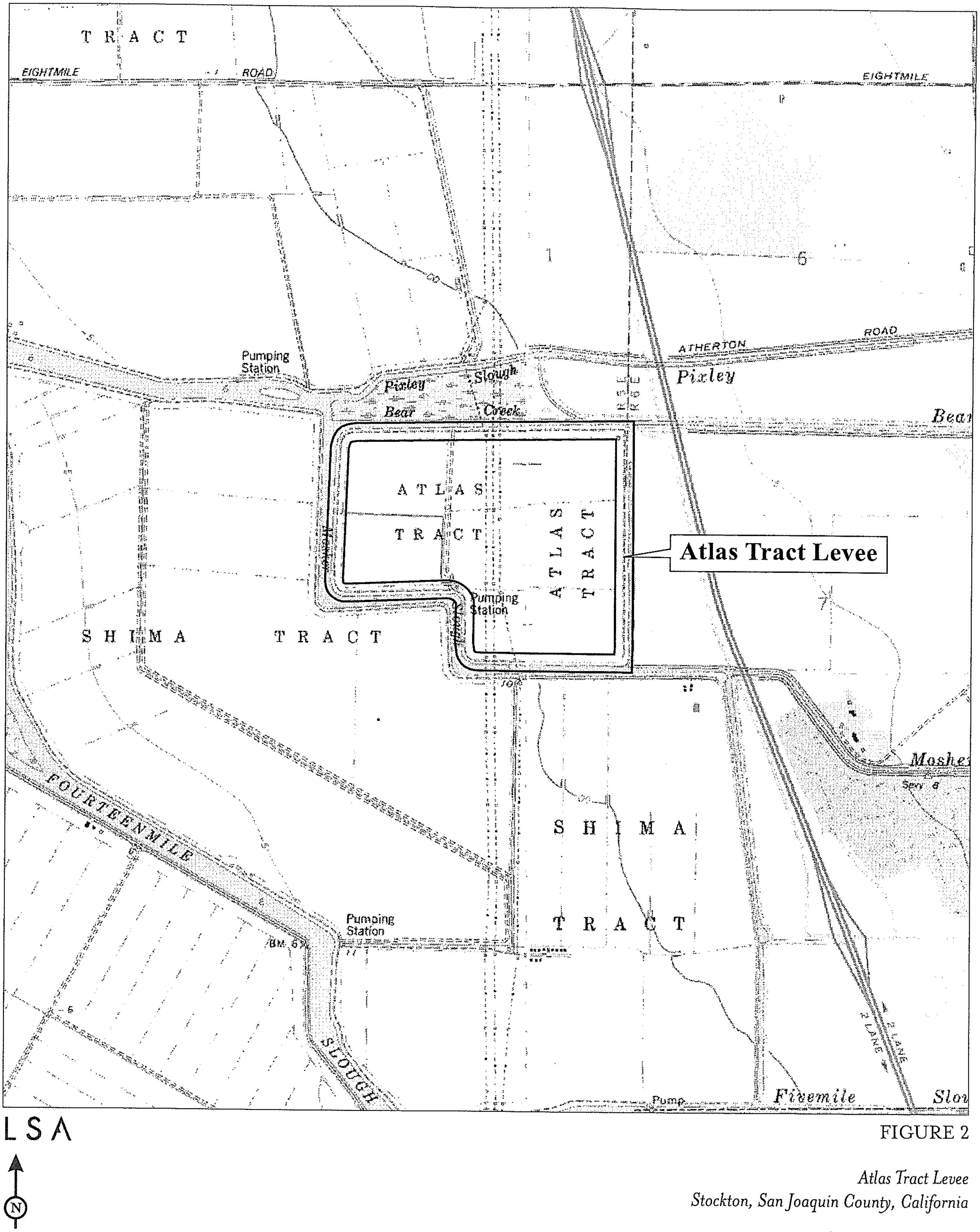

FIGURE 2

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

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IRVINE

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

June 22, 2005

Todd Ruhstaller, Director
The Haggin Museum
Victory Park, 1201 North Pershing Avenue
Stockton, California 95203

Subject: Atlas Tract Levee Evaluation, Stockton, San Joaquin County, California
LSA Project #AGS434

Dear Mr. Ruhstaller:

The A.G. Spanos Companies is proposing the development of a residential housing project which might affect the levee surrounding the Atlas Tract, Stockton, San Joaquin County, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. The study area is west of Interstate 5 and south of Eight Mile Road in unsectioned land, Township 2 North and Range 5 East, Mount Diablo Baseline and Meridian, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, topographic quadrangles.

Please notify us if your organization has any concerns about historical sites in the study area. This is not a request for research, it is solely a request for public input for any concerns that the historical society may have. Please contact us at the address and phone number above or via e-mail at <neal.kaptain@lsa-assoc.com>. We look forward to hearing from you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager

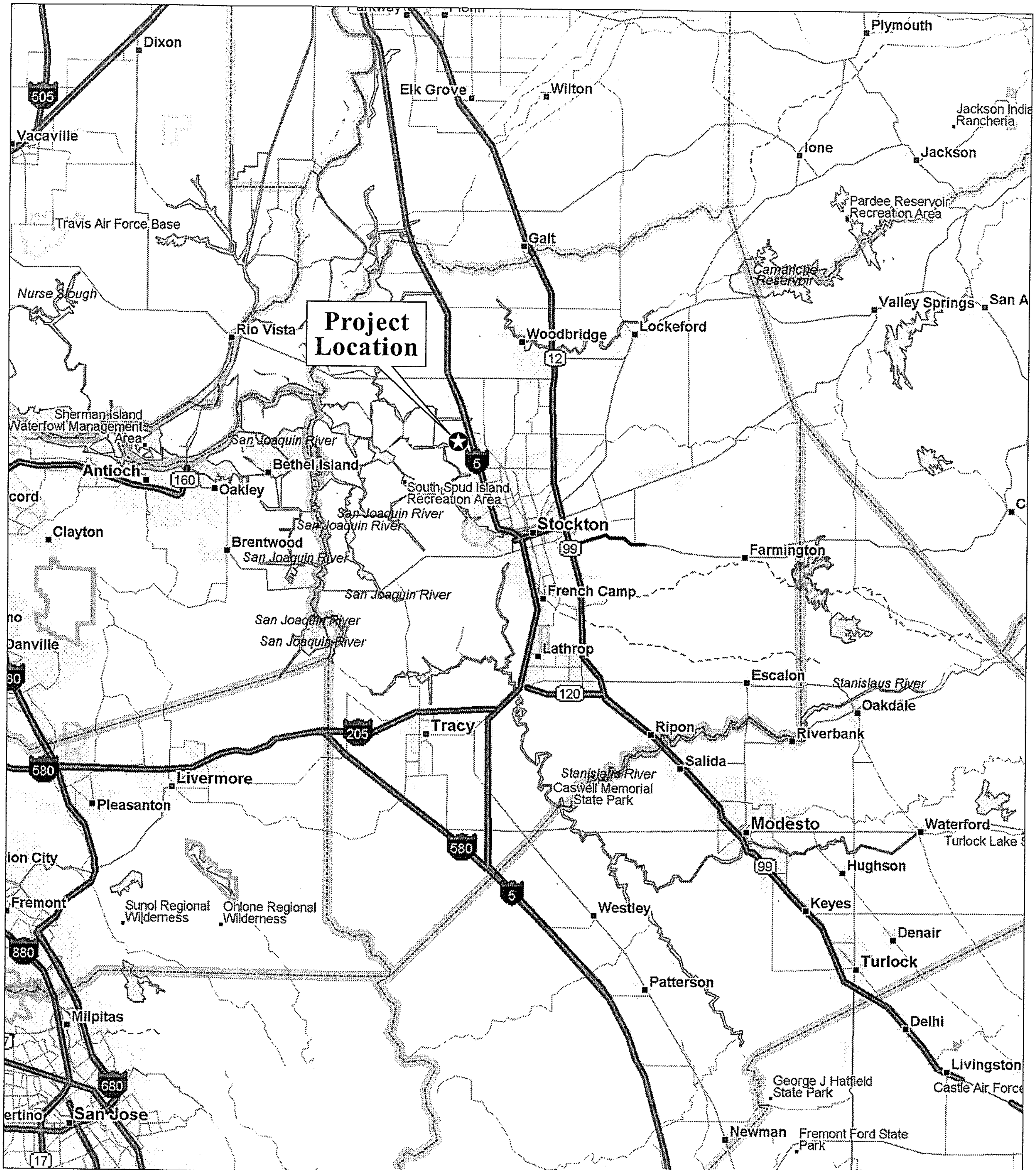

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FIGURE 1

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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MILES

SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

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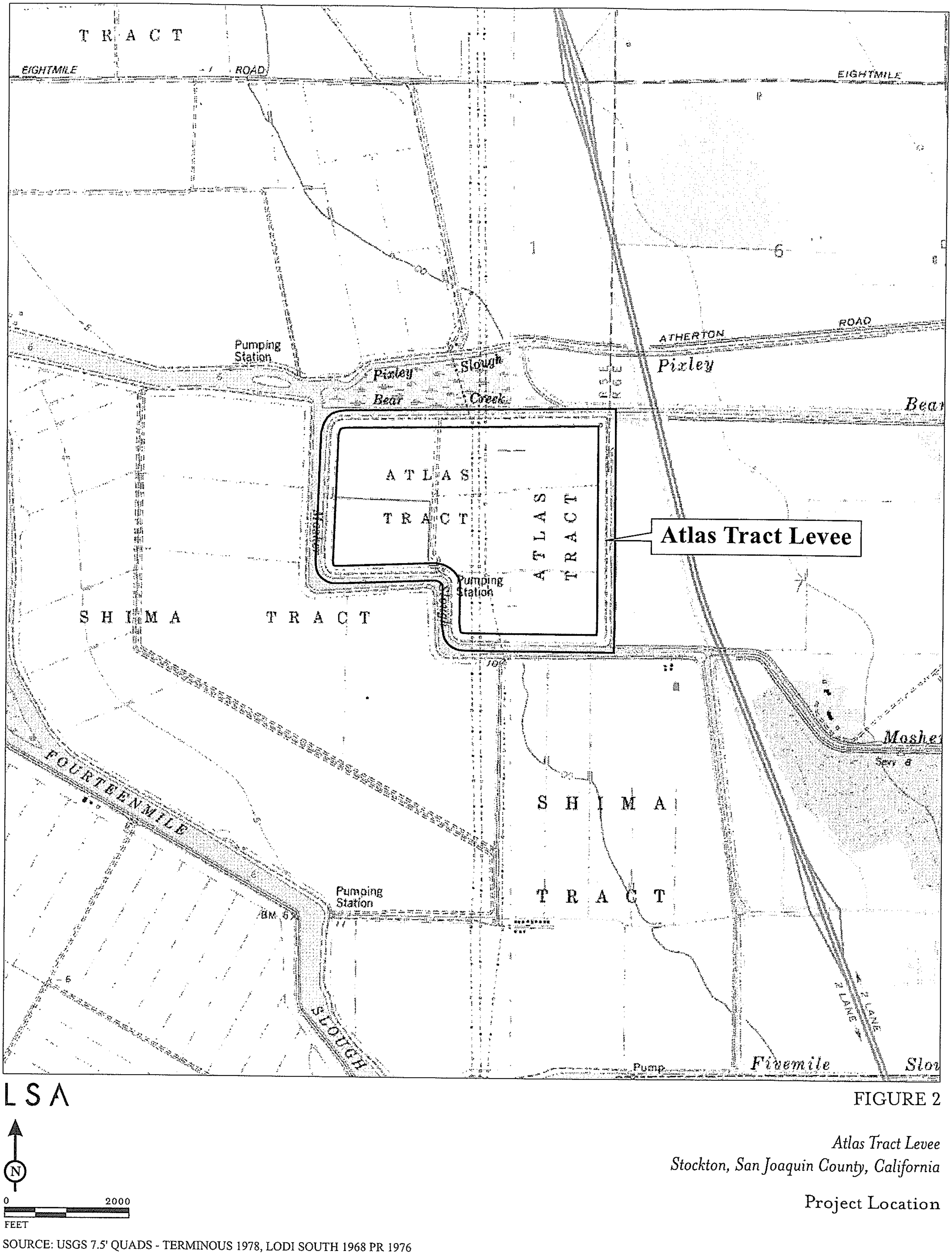

FIGURE 2

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

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LSA ASSOCIATES, INC
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510.236.6810 TEL
510.236.3480 FAX

BERKELEY
FT COLLINS
IRVINE

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

June 22, 2005

San Joaquin County Historical Society
11763 North Micke Grove Road
Lodi, California 95240

Subject: Atlas Tract Levee Evaluation, Stockton, San Joaquin County, California
LSA Project #AGS434

Dear Historical Society:

The A.G. Spanos Companies is proposing the development of a residential housing project which might affect the levee surrounding the Atlas Tract, Stockton, San Joaquin County, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. The study area is west of Interstate 5 and south of Eight Mile Road in unsectioned land, Township 2 North and Range 5 East, Mount Diablo Baseline and Meridian, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, topographic quadrangles.

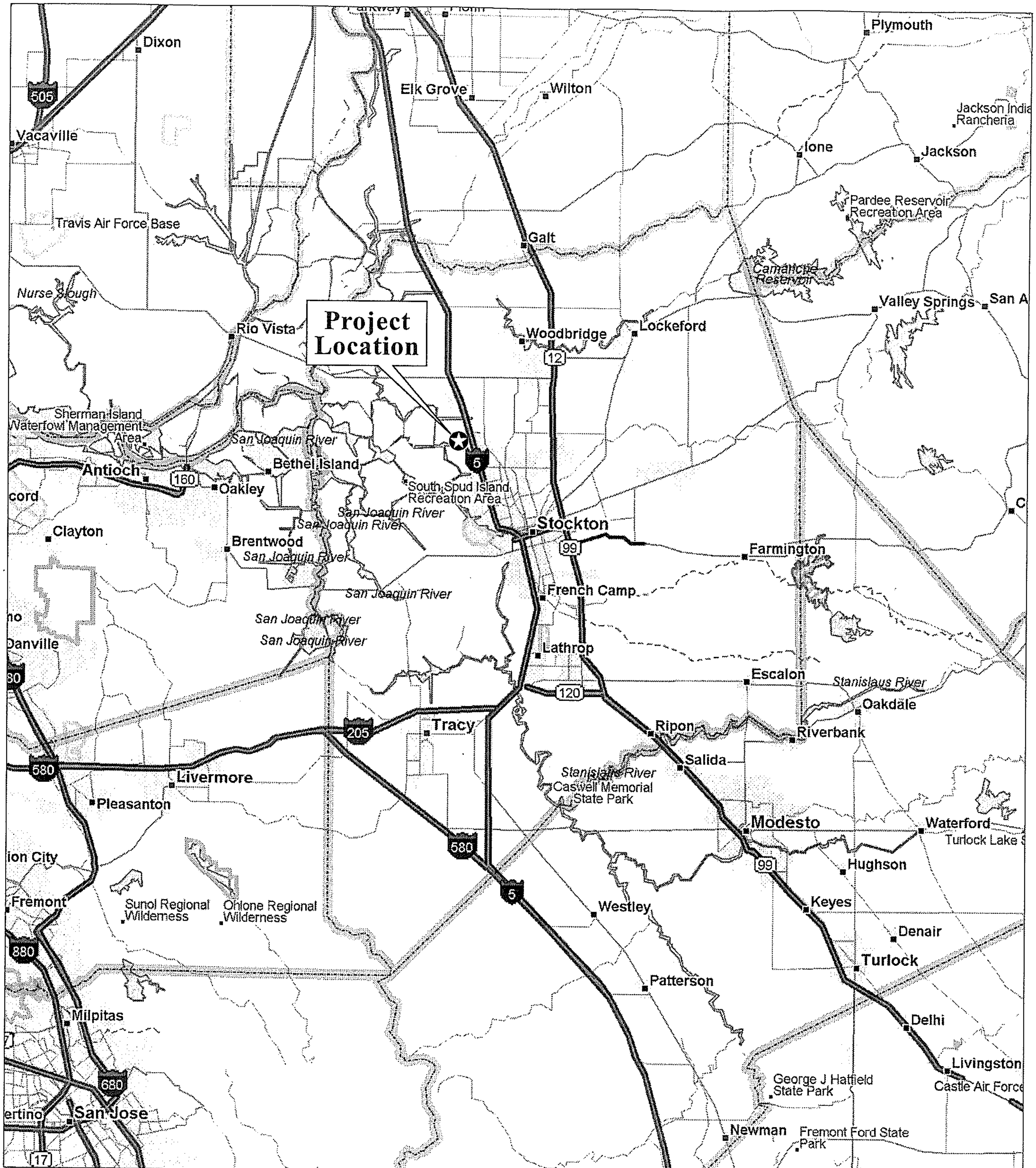
Please notify us if your organization has any concerns about historical sites in the project area. This is not a request for research, it is solely a request for public input for any concerns that the museum may have. Please contact us at the address and phone number above or via e-mail at <neal.kaptain@lsa-assoc.com>. We look forward to hearing from you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager



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MILES

FIGURE 1

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

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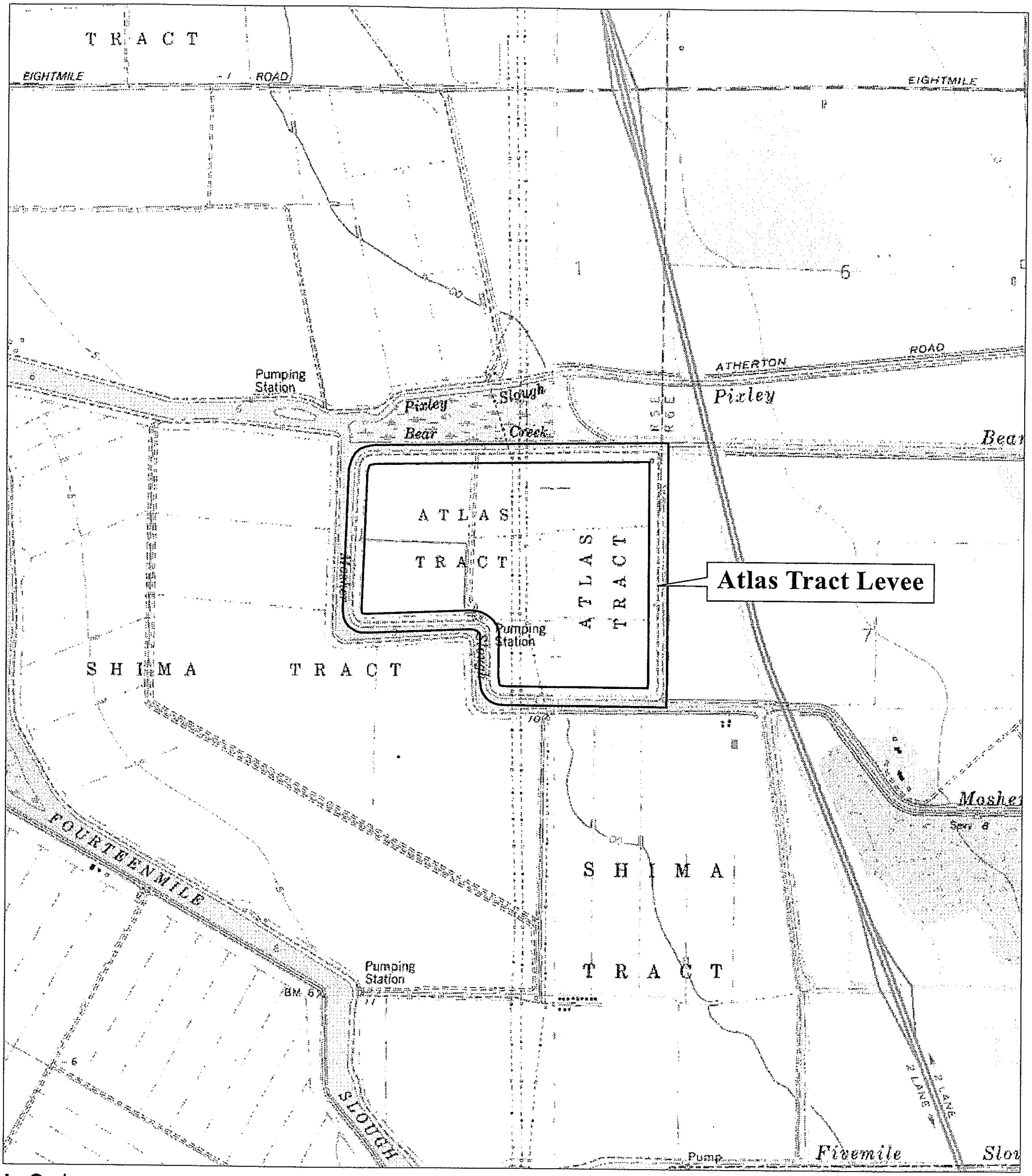

LSA

FIGURE 2

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

0 2000
FEET

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

P:\AGS434\g\ProjLocAtlasTractLevee.cdr (6/22/05)

May 25, 2005

California State Lands Commission
Pam Griggs
Submerged Cultural Resources Unit
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

Subject: Harbor Cove Project (Atlas Tract), Stockton, San Joaquin County, California
(LSA Project # AGS434)

Dear Ms. Griggs:

The A. G. Spanos Companies is proposing to develop the Harbor Cove Project (Atlas Tract) on lands west of Interstate 5 and south of Bear Creek, within the City of Stockton jurisdictional boundaries. LSA Associates, Inc. is conducting a study to determine if the project might affect cultural resources. The study area is outlined on the accompanying USGS *Terminous* and *Lodi South* 7.5' topographic quadrangles. The purpose of the study is to identify locations of cultural resources that should be taken into consideration during the planning process.

We would appreciate being notified of any information your agency may have in regards to submerged cultural resources adjacent to the study area depicted on the accompanying map. If you have any information, please contact me at the address and phone number above, or via e-mail (neal.kaptain@lsa-assoc.com). We look forward to hearing from you. Thank you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Archaeologist
Cultural Resources Group

11/28/01(P:\AGS434\Cultural\Levee Evaluation\Letters\State Lands Commission.wpd)

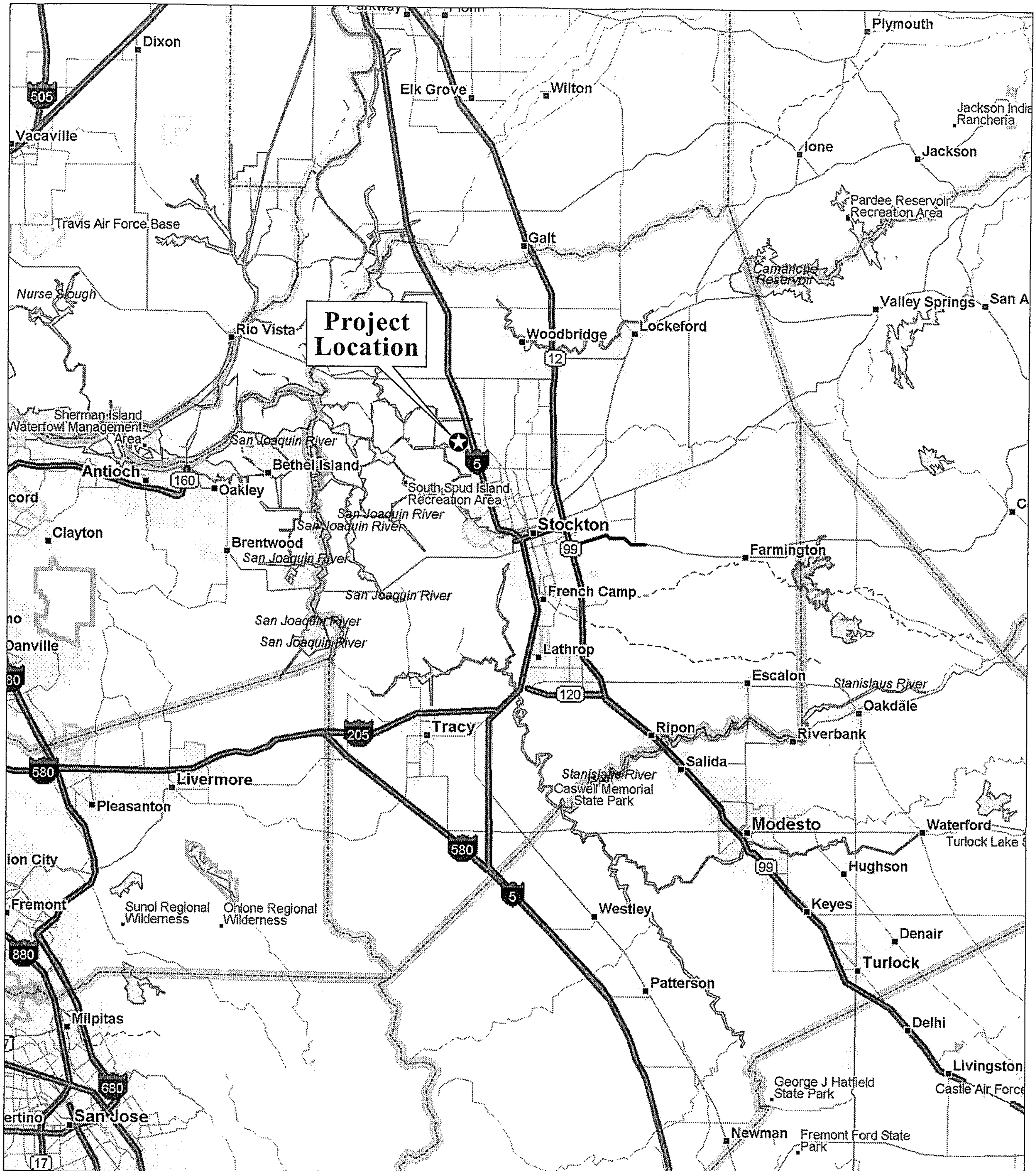

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FIGURE 1

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

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MILES

SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

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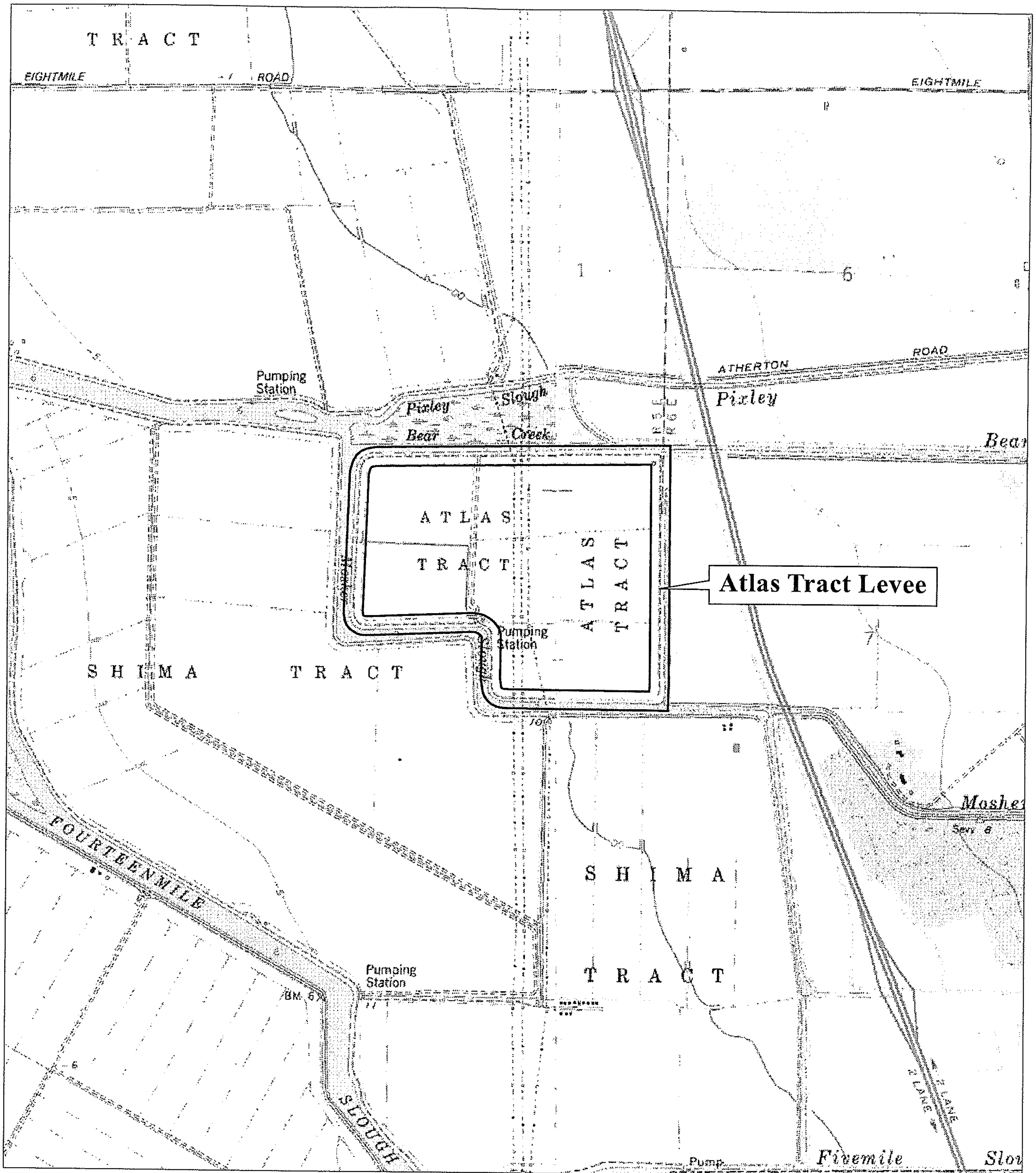

LSA

0 2000
FEET

FIGURE 2

Atlas Tract Levee
Stockton, San Joaquin County, California

Project Location

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

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STATE OF CALIFORNIA

ARNOLD SCHWARZENEGGER, *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
Relay Service From TDD Phone **1-800-735-2922**
from Voice Phone **1-800-735-2929**

Contact Phone: **(916) 574-1854**
Contact FAX: **(916) 574-1855**

July 1, 2005

Mr. Neal Kaptain
Archaeologist
Cultural Resources Group
LSA Associates, Inc.
157 Park Place
Pt. Richmond, CA 94801

Subject: Harbor Cove Project (Atlas Tract), Stockton, San Joaquin County, California (LSA Project # AG S434)

Dear Mr. Kaptain:

Thank you for your inquiry concerning submerged cultural resources that might be affected by the subject project. I conducted a search of the State Lands Commission Shipwrecks Database and found no shipwrecks listed within the project area.

Although our database reflects a search of many published sources, it does not represent actual fieldwork. You should note that not all shipwrecks are listed in our Shipwrecks Database. Also, their listed locations may be inaccurate, and some were re-floated or salvaged. Furthermore, submerged Native American sites are also a possibility, for which we have no data. <u>Therefore, you must not rely solely on our database to determine the presence or absence of cultural resources</u>. You may wish to consult historians, archeologists, or others who have special knowledge of the project area.

If further research indicates that your project may affect shipwrecks in the area, mitigation measures should be taken to protect historic or archeological resources as required by the California Environmental Quality Act and California Public Resources Code. Any proposed disturbance or removal of artifacts from historic shipwrecks, even as a mitigation measure, would require a salvage permit from the State Lands Commission.

If you have questions or need additional information, please contact me at the above address, at telephone number (916) 574-1854, or by e-mail at griggsp@slc.ca.gov.

Sincerely yours,

Pamela M. Griggs

Pamela M. Griggs
Staff Counsel

RECEIVED
JUL 8 2005
LSA ASSOCIATES INC.
PT RICHMOND OFFICE

LSA
LSA ASSOCIATES, INC.

TELEPHONE CONVERSATION RECORD

Date: October 20, 2005 Staff: J.Bray

Project Number: RAJ532 Project Name: Aksland/Trinity Bridge at Bear Creek

Subject: NOAA Fisheries Technical Assistance for Anadromous Salmonids

Contact Name: Jeff Stuart

Title:

Organization: NOAA Fisheries

Phone Number: 916-930-3607

Notes

Jeff is familiar with the project, he commented on the ND two or three years ago. I gave him a brief description of the most current design including the approximate number of piles that will be used, abutment placement, time line, etc. I also described the approximate impacts. He said NOAA Fisheries is fairly certain steelhead don't occur in Bear Creek, possibly a stray fall-run chinook but that's it. During work on previous projects on the upstream reaches of Bear Creek near Cannery Park, review of CDFG fish counts documented that salmonids were not observed in that reach of the creek, only warm water fishes. On a side note, Jeff also said that Pixley Slough above I-5 is inaccessible to salmonids because of an 8-foot high drop structure near the Spanos East development. Jeff also noted that Delta smelt may spawn in the reach of Bear Creek within the project site, and they are definitely known to spawn in Hog, Sycamore and Beaver Sloughs north of the project site.

I asked about work windows, and he said in that area it's June 1 through October 31, with possible extensions if the rainy season is late. I explained that the portion of the project requiring in-water work (i.e., pile driving) will be scheduled from August 1 through September 30 to stay within Delta smelt and GGS work windows. I told him that solid piles are being proposed (vs. CISS piles) and whether NOAA Fisheries has any issues with using those. He said they didn't, and since salmonids are not likely to be present during the in-stream work period, the piles could be driven. He said the project should incorporate standard BMP's for all aspects of the work, but especially for the work in and over Bear Creek (e.g., nets/tarps to prevent any material from falling into Bear Creek, etc.). Jeff said his main concern is preventing degradation of downstream areas that provide suitable salmonids habitat.

October 24, 2005 follow-up
Called Jeff and left a voice mail asking whether a cofferdam would be required during pile driving. Jeff responded (via voice mail) stating that a cofferdam would not be required during pile driving provided these activities were conducted within the June 1 to October 31 work window. He added that NOAA Fisheries would likely require the use of bubble curtains and/or vibratory hammers if any pile driving was proposed outside the work window.

APPENDIX B
SITE PHOTOGRAPHS

Photo 1 (Looking North Along Dryland Levee)

Photo 2 (Looking West Along Mosher Slough)

LSA

Stockton Atlas Tract Levee Alteration Project

Project Site Photos

Photo 3 (Looking West Along Southern Atlas Levee)

Photo 4 (Looking Northeast Along Dryland Levee)

LSA

Photo 5 (Looking Northwest Along Dryland Levee)

Photo 6 (Looking South Along Dryland Levee)

LSA

Photo 7 (Looking West Along Bear Creek)

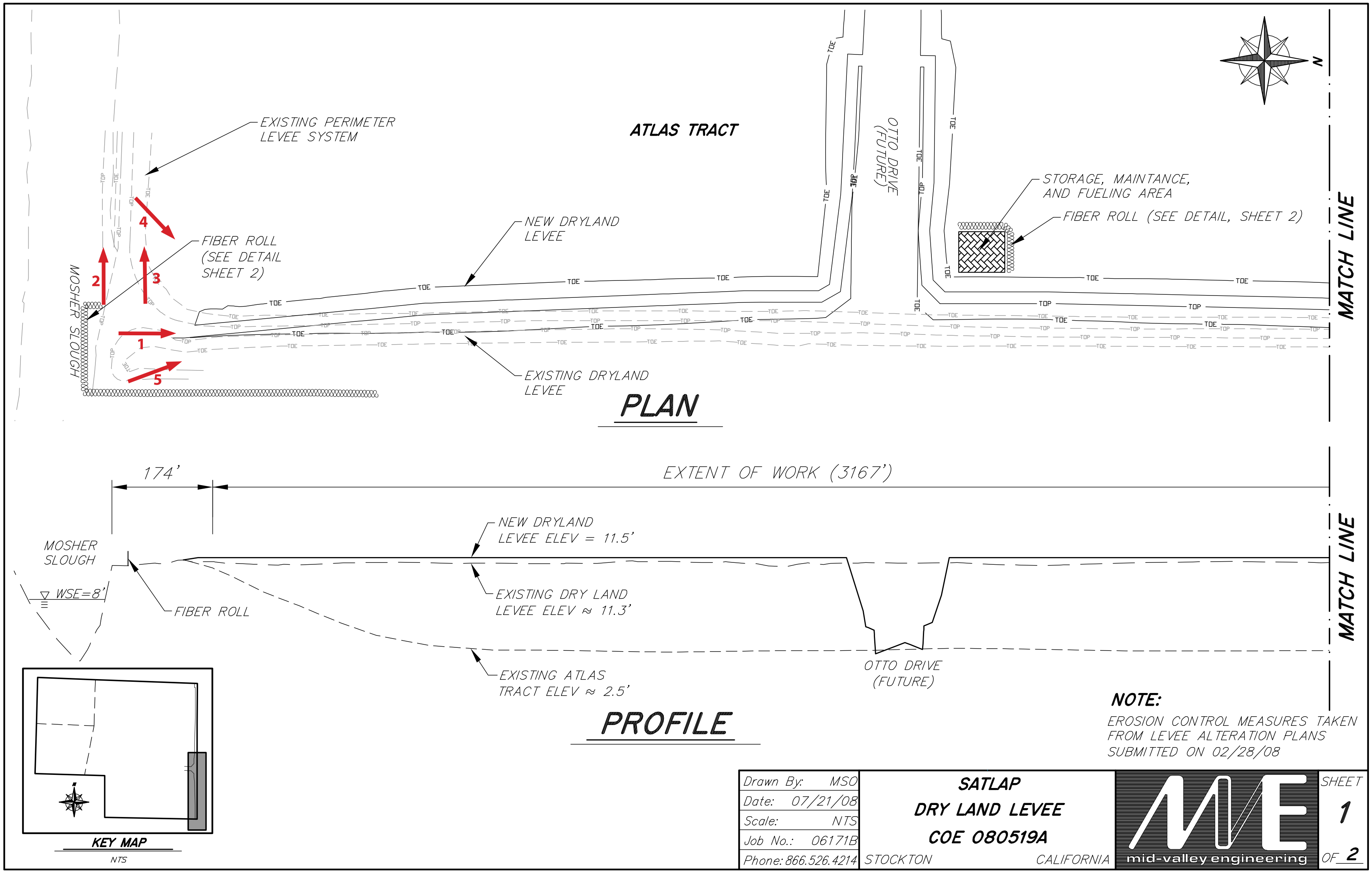
Photo 8 (Looking West Along Northern Atlas Levee)

LSA

Photo 9 (Looking Southeast Along Dryland Levee)

Photo 10 (Looking Southwest Along Dryland Levee)

LSA



LSA

Photo Vantage Point 1

SOURCE: Mid Valley Engineering, 2008
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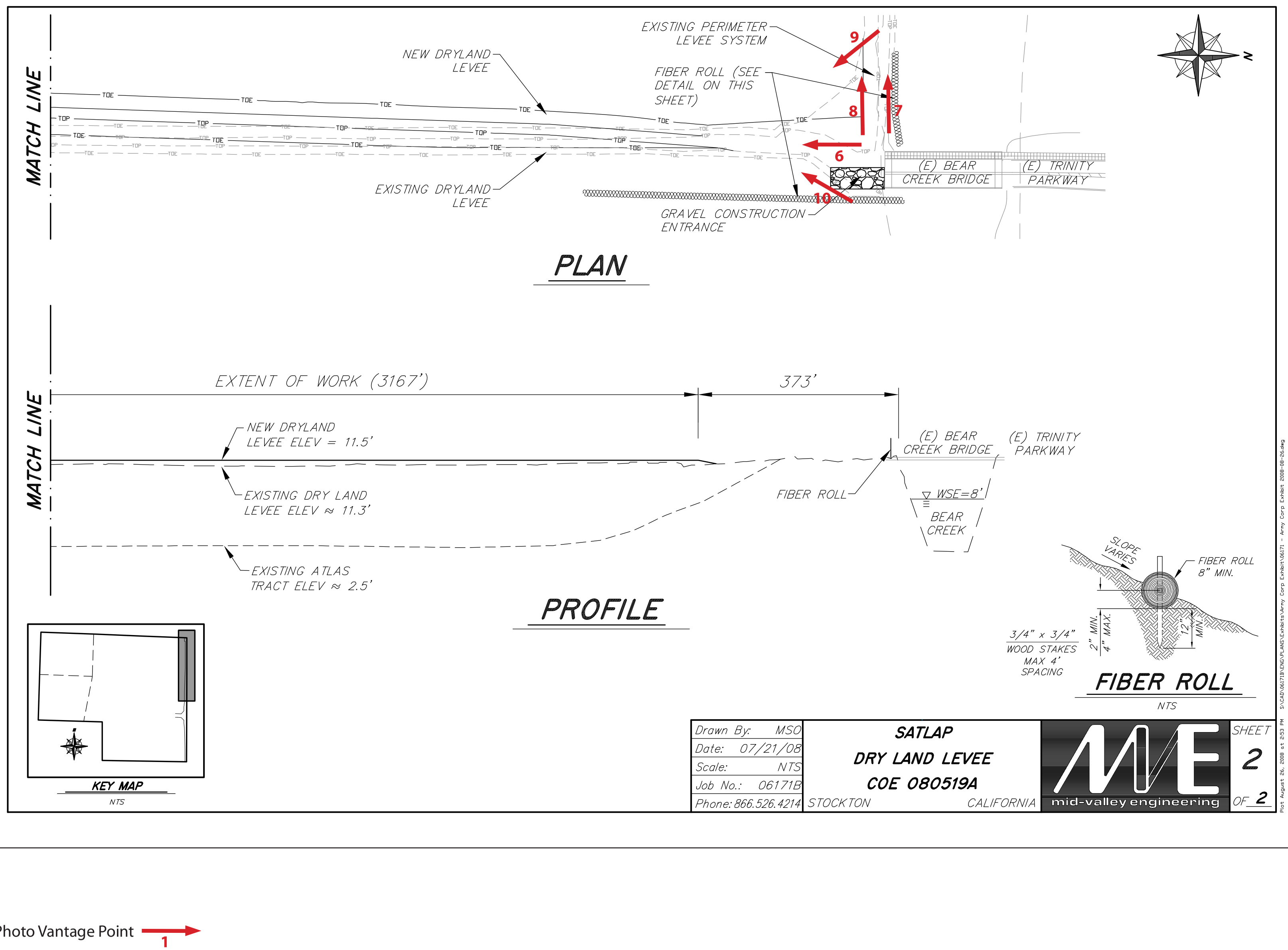
Stockton Atlas Tract Levee Alteration Project

Photo Locations (1 of 2)



LSA

Stockton Atlas Tract Levee Alteration Project

Photo Locations (2 of 2)

SOURCE: Mid Valley Engineering, 2008

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AIR QUALITY ANALYSIS

TRINITY PARKWAY EXTENSION PHASE 2

LSA

April 2006

AIR QUALITY ANALYSIS

TRINITY PARKWAY EXTENSION PHASE 2

Submitted to:
City of Stockton
425 N. El Dorado Street
Stockton, California 95202

Prepared for:
A.G. Spanos Companies
10100 Trinity Parkway, 5th Floor
Stockton, California 95219

Prepared by:

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614-4731
(949) 553-0666

LSA Project No. AGS0601

LSA

April 2006

TABLE OF CONTENTS

APPENDICES

FIGURES AND TABLES

FIGURE

TABLES

1.0 EXECUTIVE SUMMARY

LSA Associates, Inc. (LSA) was retained to prepare an air quality study for the proposed Trinity Parkway Extension Phase 2 project, located in the sphere of influence of the City of Stockton (City), California.

This air quality analysis provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. The analysis provides data on existing air quality, evaluates potential air quality impacts associated with the proposed project, and identifies mitigation measures.

Because the proposed project is a roadway extension to accommodate area growth, no new vehicular trips would be generated as a result of the project. Therefore, no new mobile or stationary sources would occur.

Historical air quality data show that existing carbon monoxide (CO) levels for the project area and the general vicinity do not exceed either State or federal ambient air quality standards. The proposed project will help to improve traffic flow and reduce congestion on roadway links in the project vicinity. The project is located in an attainment area for State and federal CO standards. An analysis was conducted to determine whether the proposed project would result in any CO hot spots. The CO levels adjacent to the roadway alignments in the project area were estimated, and it was determined that the proposed project will not result in any exceedances of the one-hour or eight-hour CO standards.

Compliance with the San Joaquin Valley Air Pollution Control District (SJVAPCD) Rules and Regulations during construction will reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions to less than significant.

This evaluation was prepared in conformance with appropriate standards, utilizing procedures and methodologies in the SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (SJVAPCD, adopted August 1998 and revised January 10, 2002).

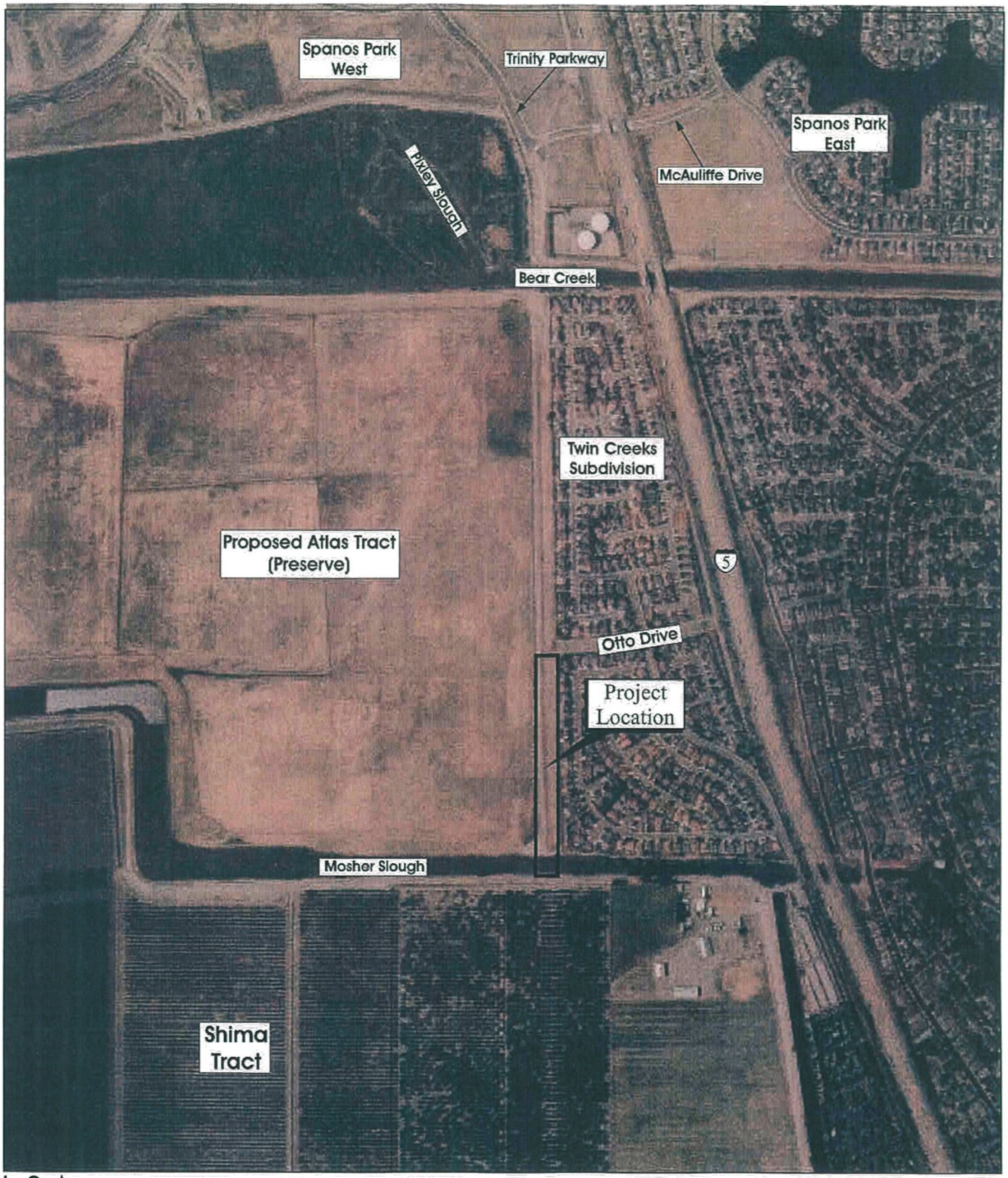
2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The project is a roadway extension located southwest of Interstate 5 (I-5) and Eight Mile Road in the City of Stockton. Figure 1 shows the project location.

2.2 PROJECT DESCRIPTION

In September 2003, the City Council adopted the Aksland Avenue/Trinity Parkway Extension project (Phase 1), which included the construction of a bridge over Bear Creek that connects to the north with Trinity Parkway and extends south to Otto Drive. In Phase 2 of the project, the roadway will continue south from Otto Drive across Mosher Slough. The roadway is a four-lane minor arterial and will include construction of a bridge over Mosher Slough. Ultimately, the Trinity Parkway Extension will continue south from Mosher Slough to an extension of Hammer Lane.



LSA

FIGURE 1

Trinity Parkway Phase 2

Project Vicinity

SOURCE: Terra Server USA, 2006

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3.0 SETTING

3.1 EXISTING ENVIRONMENTAL SETTING

The project site is located within the City of Stockton, which is part of the San Joaquin Valley Air Basin (SJVAB) and is under the jurisdiction of the SJVAPCD. The air quality assessment for the proposed project includes estimating emissions associated with short-term construction and long-term operation of the proposed project.

A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, such as the SJVAPCD, have created guidelines and requirements to conduct air quality analyses. The methodologies provided by the SJVAPCD in its *Guide for Assessing and Mitigating Air Quality Impacts* (GAMAQI, adopted August 20, 1998; revised January 10, 2002) and the Caltrans Transportation Project-Level Carbon Monoxide Protocol (December 1997) were adhered to in the assessment of air quality impacts for the proposed project.

3.1.1 Regional Air Quality

Both the State of California (State) and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants. As shown in Table A, these pollutants include ozone (O_3), CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), coarse particulate matter with a diameter of 10 microns or less (PM_{10}), fine particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

In addition to setting out primary and secondary AAQS, the State has established a set of episode criteria for O_3, CO, NO_2, SO_2, suspended particulate matter (PM_{10} and $PM_{2.5}$), and lead. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from Stage One to Stage Three. Table B lists the primary health effects and sources of common air pollutants. These health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period of time. The State AAQS are more stringent than the federal AAQS.

The California Clean Air Act (CCAA) provides the air districts, such as SJVAPCD, with the authority to manage transportation activities at indirect sources. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. Examples of this would be the motor vehicles at an intersection, a mall, and on highways. SJVAPCD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by the California Air Resources Board (ARB).

Table A: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	--	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 $\mu g/m^3$)*		0.08 ppm (157 $\mu g/m^3$)[8]		
Respirable Particulate Matter (PM_{10})	24-Hour	50 $\mu g/m^3$	Gravimetric or Beta Attenuation	150 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu g/m^3$		50 $\mu g/m^3$		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		65 $\mu g/m^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu g/m^3$	Gravimetric or Beta Attenuation	15 $\mu g/m^3$		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		--	--	--
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	--	Gas Phase Chemiluminescence	0.053 ppm (100 $\mu g/m^3$)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.25 ppm (470 $\mu g/m^3$)		--		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	--	Ultraviolet Fluorescence	0.030 ppm (80 $\mu g/m^3$)	--	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 $\mu g/m^3$)		0.14 ppm (365 $\mu g/m^3$)	--	
	3-Hour	--		--	0.5 ppm (1300 $\mu g/m^3$)	
	1-Hour	0.25 ppm (655 $\mu g/m^3$)		--	--	
Lead[9] (Pb)	30 Day Average	1.5 $\mu g/m^3$	Atomic Absorption	--	--	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	--		1.5 $\mu g/m^3$	Same as Primary Standard	
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24-Hour	25 $\mu g/m^3$	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 $\mu g/m^3$)	Ultraviolet Fluorescence			
Vinyl Cloride[9]	24-Hour	0.01 ppm (26 $\mu g/m^3$)	Gas Chromatography			

Source: ARB, November 29, 2005.
*This concentration was approved by the ARB on April 28, 2005, and is expected to become effective in 2006.

Footnotes:

1 California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1 and 24 hour); nitrogen dioxide; suspended particulate matter - PM_{10}, $PM_{2.5}$, and visibility-reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8 New federal eight-hour ozone and fine particulate matter standards were promulgated by EPA on July 18, 1997. Contact EPA for further clarification and current federal policies.

9 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Table B: Health Effects Summary of Some of the Common Pollutants Found in Air

Pollutant	Health Effects	Examples of Sources
Particulate Matter (PM_{10}: less than or equal to 10 microns)	• Increased respiratory disease • Lung damage • Premature death	• Cars and trucks, especially diesels • Fireplaces and wood stoves • Windblown dust from roadways, agriculture, and construction
Ozone (O_3)	• Breathing difficulties • Lung damage	• Formed by chemical reactions of air pollutants in the presence of sunlight; common sources are motor vehicles, industries, and consumer products
Carbon Monoxide (CO)	• Chest pain in heart patients • Headaches, nausea • Reduced mental alertness • Death at very high levels	• Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Nitrogen Dioxide (NO_2)	• Lung damage	• See carbon monoxide sources
Toxic Air Contaminants	• Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders	• Cars and trucks, especially diesels • Industrial sources such as chrome platers • Neighborhood businesses such as dry cleaners and service stations • Building materials and products

Source: ARB 2005.

Climate/Meteorology. Air pollution is directly related to a region's topographic features. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000–14,000 feet in elevation), the Coast Range in the west (averaging 3,000 feet in elevation), and the Tehachapi Mountains in the south (6,000–8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Strait, where the Sacramento-San Joaquin Delta empties into San Francisco Bay. Thus, the San Joaquin Valley (SJV) could be considered a "bowl" open only to the north.

Although marine air generally flows into the basin from the San Joaquin River delta, the region's topographic features restrict air movement through and out of the basin. The Coast Range hinders wind access into the SJV from the west, the Tehachapis prevent southerly passage of air, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow, which becomes blocked vertically by high barometric pressure over the SJV. As a result, the SJVAB is susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500–3,000 feet).

During the summer, wind speed and direction data indicate that wind usually originates at the north end of the SJV, through Tehachapi Pass, into the SJVAB. During the winter, wind speed and direction data indicate that wind occasionally originates in the south end of the SJV and flows in a north-northwesterly direction. Also during the winter months, the SJV experiences light, variable winds of less than 10 mph. Low wind speeds combined with low inversion layers in the winter create a climate conducive to high CO and PM_{10} concentrations.

The climatological station monitoring temperature closest to the project site is the Stockton station.[1] The monthly average temperature recorded at the Stockton station for the last 40 years ranges from 45.6°F in January to 77.3°F in July. January is typically the coldest month in this area. The Stockton monitoring station also records precipitation throughout the year. Average rainfall measured for the last 40 years varied from 2.85 inches in January to 0.73 inch or less between May and October, with an average annual total of 14.00 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

Air Pollution Constituents and Attainment Status. The following describes the six criteria air pollutants and their attainment status in the Basin based on ARB's Area Designations (Activities and Maps) (http://www.arb.ca.gov/desig/desig.htm). ARB provided the Environmental Protection Agency (EPA) with California's recommendations for eight-hour ozone area designations on July 15, 2003. The recommendations and supporting data were an update to a report submitted to the EPA in July 2000. On December 3, 2003, the EPA published its proposed designations. EPA's proposal differs from the State's recommendations primarily on the appropriate boundaries for several nonattainment areas. ARB responded to the EPA's proposal on February 4, 2004. EPA finalized the eight-hour ozone designations in April 2004.

The EPA issued the final $PM_{2.5}$ implementation rule in fall 2004 and issued the final designations on December 14, 2004.

1 Western Regional Climatic Center, 2006.

Table C summarizes the attainment status in the Basin for the major criteria pollutants.

The SJVAPCD, together with ARB, maintains ambient air quality monitoring stations in the San Joaquin area. The attainment status in the San Joaquin area of the SJVAB is shown in Table C.

Table C: Attainment Status in the San Joaquin Area

Emissions	State	Federal
Ozone: 1-hour	Severe Nonattainment	No Federal Standard
Ozone: 8-hour	Not Established	Serious Nonattainment
PM_{10}	Nonattainment	Serious Nonattainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Attainment/Unclassified
NO_2	Attainment	Attainment/Unclassified
SO_2	Attainment	Unclassified
All others	Attainment/Unclassified	Attainment/Unclassified

Source: ARB, April 2006.

Ozone. O_3 (smog) is formed by photochemical reactions between NO_X and reactive organic gases (ROG) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O_3 levels peak during summer and early fall. The SJVAPCD requested an extreme (from severe) nonattainment designation for the federal one-hour ozone standard for the SJVAB. The EPA approved the redesignation of the federal ozone attainment status to extreme in April 2004. The approval of the redesignation reduces the emissions cap for major sources from 25 to 10 tons per year. However, it will push the attainment date from 2005 to 2010, thereby avoiding any penalty fees associated with a nonconforming status. Effective June 15, 2005, the EPA revoked in full the federal 1-hour ozone ambient air quality standard, including associated designations and classifications, in all areas except 14 early action compact areas that do not include the SJVAB.

Carbon Monoxide. CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The San Joaquin area is designated as attainment/unclassified for federal CO standards and attainment for State CO standards.

Nitrogen Oxides. NO_2, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as nitrogen oxides, or NO_X. NO_X is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases lung function and may reduce resistance to infection. The entire Basin is designated as attainment/unclassified under federal standards and attainment under State standards.

Sulfur Dioxide. SO_2 is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The San Joaquin area is designated as unclassified for federal CO standards and attainment for State SO_2 standards.

Lead. Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire Basin is in attainment for federal and State lead standards.

Particulate Matter. Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles, PM_{10}, derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle, $PM_{2.5}$, levels. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by current PM_{10} standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The entire Basin is a nonattainment area for federal and State PM_{10} and $PM_{2.5}$ standards.

Local Air Quality

The SJVAPCD, together with the ARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Stockton-Hazelton Station, and its air quality trends are representative of the ambient air quality in the project area. The pollutants monitored are CO, O_3, PM_{10}, $PM_{2.5}$, and NO_2.[1]

The ambient air quality data in Tables D and E show that CO and NO_2 levels are well below relevant State and federal standards. $PM_{2.5}$ levels were consistently lower than standards. O_3 and PM_{10} levels occasionally exceeded State and federal standards during the last three years. Also shown in Table E, SO_2 levels are not monitored in the San Joaquin Basin.

1 Air quality data, 2002–2004; EPA and ARB Web sites.

Table D: Ambient Air Quality at the Stockton-Hazelton Air Monitoring Station

Pollutant	Standard	2005	2004	2003
Carbon Monoxide (CO)				
Maximum 1 hr concentration (ppm)		3.2	3.7	5.8
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8 hr concentration (ppm)		2.7	2.5	3.1
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1 hr concentration (ppm)		0.099	0.096	0.104
Number of days exceeded:	State: > 0.09 ppm	3	1	3
Maximum 8 hr concentration (ppm)		0.086	0.080	0.088
Number of days exceeded:	State: > 0.07 ppm	ND	ND	ND
	Federal: > 0.08 ppm	1	0	1
Coarse Particulates (PM_{10})				
Maximum 24 hr concentration ($\mu g/m^3$)		79.0	60.0	88.0
Number of days exceeded:	State: > 50 $\mu g/m^3$	8	3	3
	Federal: > 150 $\mu g/m^3$	0	0	0
Annual arithmetic average concentration ($\mu g/m^3$)		29.8	29.4	28.4
Exceeded for the year:	State: > 20 $\mu g/m^3$	Yes	Yes	Yes
	Federal: > 50 $\mu g/m^3$	No	No	No
Fine Particulates ($PM_{2.5}$)				
Maximum 24 hr concentration ($\mu g/m^3$)		44.0	41.0	45.0
Number of days exceeded:	Federal: > 65 $\mu g/m^3$	0	0	0
Annual arithmetic average concentration ($\mu g/m^3$)		10.6	13.2	13.6
Exceeded for the year:	State: > 12 $\mu g/m^3$	No	Yes	Yes
	Federal: > 15 $\mu g/m^3$	No	No	No
Nitrogen Dioxide (NO_2)				
Maximum 1 hr concentration (ppm)		0.087	0.079	0.088
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.017	0.017	0.018
Exceeded for the year:	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2) (Bethel Island, Contra Costa)				
Maximum 1 hr concentration (ppm)		0.017	0.015	0.016
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Maximum 3 hr concentration (ppm)		0.010	0.009	0.013
Number of days exceeded:	Federal: > 0.5 ppm	0	0	0
Maximum 24 hr concentration (ppm)		0.006	0.006	0.006
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.002	0.002	0.002
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Source: ARB and EPA Web sites.
ppm = parts per million
$\mu g/m^3$ = micrograms per cubic meter
ND = no data available

3.2 REGULATORY SETTINGS

3.2.1 Federal Regulations/Standards

Pursuant to the federal Clean Air Act (CAA) of 1970, the EPA established national ambient air quality standards (NAAQS) for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations in order to protect public health.

Data collected at permanent monitoring stations are used by the EPA to classify regions as "attainment" or "nonattainment," depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas have additional restrictions as required by the EPA.

The San Joaquin Valley is a single air quality nonattainment area containing six metropolitan planning organizations (MPOs) and two rural transportation-planning agencies (TPAs) that conduct transportation planning activities within the Valley. The EPA has designated the Merced County Association of Governments (MCAG) as the MPO responsible for ensuring the area's compliance with the CAA.

The EPA established new national air quality standards for ground-level O_3 and $PM_{2.5}$ matter in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for O_3 and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the U.S. Supreme Court upheld the way the government sets air quality standards under the CAA. The court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The justices also rejected arguments that the EPA took lawmaking power from Congress when it set tougher standards for O_3 and particulate matter in 1997. Nevertheless, the court threw out the EPA's policy for implementing new O_3 rules, saying that the agency ignored a section of the law that restricts its authority to enforce such rules.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the eight-hour ground-level O_3 standard. The EPA issued the proposed rule implementing the eight-hour O_3 standard in April 2003. The EPA completed final eight-hour nonattainment status on April 15, 2004 and revoked the one-hour standard on June 15, 2005.

The EPA issued the final $PM_{2.5}$ implementation rule in fall 2004. The EPA issued final designations on December 14, 2004.

3.2.2 State Regulations/Standards

The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are also listed in Table A.

Originally, there were no attainment deadlines for CAAQS. However, the CCAA of 1988 provided a time frame and a planning structure to promote their attainment. The CCAA required nonattainment areas in the State to prepare attainment plans and proposed to classify each such area on the basis of the submitted plan, as follows: moderate, if CAAQS attainment could not occur before December 31, 1994; serious, if CAAQS attainment could not occur before December 31, 1997; and severe, if CAAQS attainment could not be conclusively demonstrated at all.

The attainment plans require a minimum 5 percent annual reduction in the emissions of nonattainment pollutants unless all feasible measures have been implemented. The Merced County area of the SJVAB is currently classified as a nonattainment area for three criteria pollutants: ozone (O_3), suspended coarse particulates (PM_{10}), and suspended fine particulates ($PM_{2.5}$).

3.2.3 Regional Air Quality Planning Framework

The 1976 Lewis Air Quality Management Act established the SJVAPCD and other air districts throughout the State. The federal CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

The ARB coordinates and oversees both State and federal air pollution control programs in California. It oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval. The ARB maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected at these stations are used by the ARB to classify air basins as "attainment" or "nonattainment" with respect to each pollutant and to monitor progress in attaining air quality standards. The ARB has divided the State into 15 air basins. Significant authority for air quality control within them has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

The California Clean Air Act (CCAA) provides the SJVAPCD with the authority to manage transportation activities at indirect sources and regulate stationary source emissions. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. An example of this would be the motor vehicles at an intersection, a mall, and on highways. As a State agency, the ARB regulates motor vehicles and fuels for their emissions.

3.2.4 Regional Air Quality Management Plan (AQMP)

The SJVAPCD has adopted several attainment plans to achieve State and federal air quality standards to comply with CCAA and federal Clean Air Act Amendments (FCAAA) requirements. The SJVAPCD must continuously monitor its progress in implementing attainment plans and must periodically report to the ARB and the EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements in accordance with schedules mandated by the CCAA and FCAAA.

The CCAA requires districts to adopt air quality attainment plans and to review and revise their plans to address deficiencies in interim measures of progress once every three years. The SJVAPCD's AQMP was adopted in 1991 and was most recently updated in 2001.

To meet FCAAA and CCAA requirements, the SJVAPCD has submitted numerous plans for attaining ozone, PM_{10}, and CO standards. The ozone plan projected attainment of the federal ozone standard by 1999, but did not achieve its goal. The SJVAPCD is in the process of preparing a draft ozone plan and has requested a redesignation of extreme nonattainment status for the federal one-hour ozone standard. The CO plan demonstrates that CO attainment has already been reached. The PM_{10} attainment plan sets forth the approach the SJVAPCD will use to attain the NAAQS for PM_{10}. The SJVAPCD Governing Board adopted a 2003 PM_{10} plan in June 2003 and forwarded it to the ARB. The ARB adopted the plan in June 2003 and forwarded it to the EPA. The EPA found the plan complete in August 2003 and finalized approval of the 2003 PM_{10} plan in April 2004.

4.0 METHODOLOGY

4.1 THRESHOLDS OF SIGNIFICANCE

A project would normally be considered to have a significant effect on air quality if the project would conflict with or obstruct implementation of the applicable air quality plan; violate any air quality standards or contribute substantially to an existing or projected air quality violation; result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors); expose sensitive receptors to substantial pollutant concentrations; or create objectionable odors affecting a substantial number of people (Guidelines for the implementation of the California Environmental Quality Act, Appendix G, Public Resources Code §15000–15387).

In addition to the federal and State AAQS, as listed in Table A, there are annual emissions thresholds for operation of a proposed project in the SJVAB. The San Joaquin area of the SJVAB is administered by the SJVAPCD, and guidelines and emissions thresholds established by the SJVAPCD in its Guide for Assessing and Mitigating Air Quality Impacts (SJVAPCD, adopted August 1998 and revised January 10, 2002) are used in this analysis.

SJVAPCD also requires evaluation of cumulative air quality impacts. CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor, but collectively significant, projects. An adequate cumulative impact analysis considers a project over time and in conjunction with other related past, present, and reasonably foreseeable future projects whose impacts might compound or interrelate with those of the project being assessed.

Emissions associated with stationary sources related to the proposed project are expected to be negligible and therefore have not been analyzed in this report.

4.1.1 Thresholds of Significance for Construction Emissions

A project's construction phase produces many types of emissions, but PM_{10} is the pollutant of greatest concern. Rather than provide a quantitative significance threshold for PM_{10}, the SJVAPCD has determined that a project's impacts will be less than significant if the project complies with certain mitigation measures. Accordingly, the SJVAPCD has determined that compliance with Regulation VIII for all sites and implementation of all other control measures indicated in Tables E and F below (as appropriate, depending on the size and location of the project site) will constitute sufficient mitigation to reduce PM_{10} impacts to a level considered less than significant.

The control measures listed in Table E (Regulation VIII Control Measures) are required for all construction sites by regulation. Table F lists additional measures that may be required due to sheer project size or proximity of the project to sensitive receptors. Table F also lists additional control measures (Optional Measures) that may be implemented if further emissions reductions are deemed necessary by the Lead Agency.

Table E: Regulation VIII Control Measures for Construction Emissions of PM_{10}

Regulation VIII Control Measures. The following controls are required to be implemented at all construction sites. (Includes changes effective May 15, 2002)
• All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
• All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
• All land clearing, grubbing, scraping, excavation, land leveling, grading, cut & fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
• With the demolition of buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.
• When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
• All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions.) (Use of blower devices is expressly forbidden.)
• Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
• Within urban areas, trackouts shall be immediately removed when they extend 50 or more feet from the site, and at the end of each workday.
• Any site with 150 or more vehicle trips per day shall prevent carryout and trackout.

Source: SJVAPCD, January 2002.

Table F: Enhanced and Additional Control Measures for Construction Emissions of PM_{10}

Enhanced Control Measures. The following measures should be implemented at construction sites when required to mitigate significant PM_{10} impacts (note, these measures are to be implemented in addition to Regulation VIII requirements):
• Limit traffic speeds on unpaved roads to 15 mph; and • Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent.
Additional Control Measures. The following control measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors, or which for other reason warrant additional emissions reductions:
• Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site; • Install wind breaks at windward side(s) of construction areas; • Suspend excavation and grading activity when winds exceed 20 mph; and* • Limit area subject to excavation, grading, and other construction activity at any one time. *Regardless of windspeed, an owner/operator must comply with Regulation VIII's 20 percent opacity limitation.

Source: SJVAPCD, January 2002.

The SJVAPCD recognizes that the measures listed in Tables E and F focus on PM_{10} emissions from fugitive dust sources. It indicates that Lead Agencies seeking to reduce emissions from construction equipment exhaust should also consider the mitigation measures listed in Table G. The SJVAPCD recognizes that these measures are difficult to implement due to poor availability of alternative fueled equipment and the challenge of monitoring these activities.

4.1.2 Thresholds of Significance for Operational

The term "project operations" refers to the full range of activities that can or may generate pollutant emissions when the development is functioning in its intended use. Ozone precursor emissions from project operations should be compared to the following thresholds:

- Ozone Precursor Thresholds
    - 10 tons per year of ROG
    - 10 tons per year of NO_X

Projects with operation related emissions that exceed any of the above listed emissions thresholds are considered significant.

- Local Carbon Monoxide Concentrations Thresholds
    - California State one hour CO standard of 20.0 ppm
    - California State eight hour CO standard of 9.0 ppm

Table G: Construction Equipment Mitigation Measures

Emissions Source	Mitigation Measures
Heavy duty equipment (scrapers, graders, trenchers, earth movers, etc.)	• Use of alternative fueled equipment or catalyst equipped diesel construction equipment. • Minimize idling time (e.g., 10 minutes maximum) • Limit the hours of operation of heavy duty equipment and/or the amount of equipment in use • Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set) • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak-hour of vehicular traffic on adjacent roadways • Implement activity management (e.g., rescheduling activities to reduce short-term impacts)

Source: SJVAPCD, January 2002.

Projects that would result in CO concentrations exceeding the above standards are considered significant.

- Odor Impacts Threshold

Any project with the potential to frequently expose members of the public to objectionable odors will be deemed to have a significant impact.

- Hazardous Air Pollutants (HAPs)

The definition of substantial pollutant concentrations varies for pollutants without defined significance standards or air contaminants not covered by the standard criteria cited above. With regard to hazardous air pollutants, also known as toxic air contaminants (TAC), "substantial" is taken to mean that the individual cancer risk exceeds a threshold considered to be a prudent risk management level. If best-available control technology for toxics (T-BACT) has been applied, the individual cancer risk to the maximum exposed individual (MEI) must not exceed 10 in 1 million in order for an impact to be determined not to be significant.

Airborne impacts are also derived from materials considered to be a nuisance for which there may not be associated standards. Odors or the deposition of large-diameter dust particles outside of the PM_{10} size range would be included in this category. It is considered a significant impact for odors and large-diameter dust particles if the SJVAPCD Nuisance Rule (#4102) would be potentially violated.

The following limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard indices (HI) from project emissions of TACs have been established for the Basin:

- **MICR and Cancer Burden.** MICR is the estimated probability of a potential MEI contracting cancer as a result of exposure to TACs over a period of 70 years for residential and 46 years for worker receptor locations. The MICR calculations include multipathway consideration, when applicable. Cancer Burden is the estimated increase in the occurrence of cancer cases in a population subject to a MICR of greater than or equal to one in one million (1.0×10^{-6}) resulting from exposure to TACs.
- The cumulative increase in MICR that is the sum of the calculated MICR values for all TACs emitted from the project will not result in any of the following:
  - An increased MICR greater than 10 in 1 million (1.0×10^{-5}) at any receptor location (assumes the project will be constructed with T-BACT)
  - A cancer burden greater than 0.5
- **Chronic HI.** This is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic reference exposure level. The chronic HI calculations include multipathway considerations, when applicable.
- The cumulative increase in total chronic HI for any target organ system due to total emissions from the project will not exceed 1.0 at any receptor location.
- **Acute HI.** This is the ratio of the estimated maximum one-hour concentration of a TAC for a potential MEI to its acute reference exposure level.
- The cumulative increase in total acute HI for any target organ system due to total emissions from the project will not exceed 1.0 at any receptor location.
- Accidental Release/Acutely Hazardous Air Emissions

The determination of significance for potential impacts from accidental release of acutely hazardous air pollutants should be made in consultation with local administering agency of the Risk Management Preventive Program. The County health department, Office of Emergency Services, or local fire department is usually the administering agency.

4.1.3 Evaluating Cumulative Air Quality Impacts

The SJVAPCD recommends the following procedures to evaluate potential cumulative air quality impacts:

- Evaluate cumulative ozone impacts
- Evaluate cumulative PM_{10} impacts
- Evaluate cumulative CO impacts
- Evaluate cumulative HAP impacts

5.0 IMPACTS

5.1 CONSTRUCTION IMPACTS

Air pollutant emissions associated with the project would occur over the short-term from construction activities, such as fugitive dust from site preparation and grading and emissions from equipment exhaust. The SJVAPCD's approach to CEQA analyses of PM_{10} impacts is to require implementation of effective and comprehensive control measures rather than detailed quantification of emissions. Because construction activities will incorporate all feasible mitigation measures, project-related construction emissions will be less than significant. Compliance with Regulation VIII and implementation of applicable control measures, indicated in Tables E and F, will reduce PM_{10} impacts to a level considered less than significant. No additional measures are recommended.

5.1.1 Odors

Heavy-duty equipment in the project area during construction would emit odors. However, the construction activity would be short-term and would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the proposed project. No mitigation measures are recommended.

5.2 LONG-TERM PROJECT AIR QUALITY EFFECTS

A CO hot spot analysis was conducted for a localized air quality impact analysis.

5.2.1 Long-Term Microscale (CO Hot Spot) Analysis

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality effects would occur when emissions from vehicular traffic increase in local areas as a result of the proposed project. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentration, modeling is recommended to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Per EPA guidelines, the highest of the second-highest CO concentrations measured within the past three years were used as the background levels. At the Stockton-Hazelton Monitoring Station, the background concentrations are 4.9 ppm for the one-hour period and 3.0 ppm for the eight-hour period.

The highest CO concentrations would occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis. Based on the project traffic impact analysis by Fehr & Peers (January 2006), CO hot spot analyses were conducted for existing and cumulative conditions. The impact on local carbon monoxide levels was assessed with the ARB-approved CALINE4 air quality model, which allows microscale CO concentrations to be estimated along roadway corridors or near intersections. This model is designed to identify localized concentrations of carbon monoxide, often termed "hot spots." A brief discussion of input to the CALINE4 model follows. The analysis was performed for the worst-case wind angle and wind speed condition and is based upon the following assumptions:

- Selected modeling locations represent the intersections closest to the project site, with the highest project-related vehicle turning movements and the worst level of service deterioration.
- Twenty receptor locations with the possibility of extended outdoor exposure from 7 to 21 meters (approximately 23 to 69 feet) of the roadway centerline near intersections were modeled to determine CO concentrations.
- The calculations assume a meteorological condition of almost no wind (0.5 m/second), a suburban topographical condition between the source and receptor, and a mixing height of 1,000 m, representing a worst-case scenario for CO concentrations.
- CO concentrations are calculated for the one-hour averaging period and then compared to the one-hour standards. CO eight-hour averages are extrapolated using a persistence factor of 0.7 to predict the eight-hour concentration in an attainment area.
- Concentrations are given in parts per million (ppm) at each of the receptor locations.
- The "at-grade" link option with speed adjusted based on average cruise speed and number of vehicles per lane per hour was used rather than the "intersection" link selection in the CALINE4 model (Caltrans has suggested that the "intersection" link should not be used due to an inappropriate algorithm based on outdated vehicle distribution). Emissions factors from the EMFAC2002 model were used for the vehicle fleet.
- The highest level of the second-highest one-hour and eight-hour CO concentrations monitored at the Stockton-Hazelton Monitoring Station in the past three years were used as background concentrations (4.9 ppm for the one-hour CO and 3.0 ppm for the eight-hour CO). The background concentrations are then added to the model results for future with and without the proposed project conditions.

In order to determine the proposed project's impact on the local air quality, the CO levels were modeled at seven intersections in the project area for the existing and future scenarios. The project will have the most affect on traffic volumes at these intersections. The CALINE4 model printouts are included in Appendix B.

Table H compares the CO concentrations from the existing 2005 traffic and all approved operational projects in the vicinity of this project with CO concentrations from additional traffic related to the Atlas Tract project (the nearest main user of this proposed project). Table I compares CO concentrations without and with the project in 2025. Table J compares CO concentrations without and with the project in 2035. Table H shows that in 2005, the proposed project would contribute at most a 2.5 ppm increase to the one-hour and a 1.8 ppm increase to the eight-hour CO concentrations at these intersections.

As shown in Tables I and J, the future-year scenarios show less of an impact with none of the seven intersections analyzed exceeding either the one-hour or the eight-hour CO concentration federal and State standards. The proposed project will not have a significant impact on local air quality for CO, and no mitigation measures would be required.

5.2.2 Mobile Sources

Because the proposed project is a roadway extension to accommodate area growth, no new vehicular trips would be generated as a result of the project. Therefore, no new mobile sources would occur.

5.2.3 Diesel Toxics Analysis

It is not expected that implementation of this project will cause a significant increase in toxic air contaminants (TAC). For the immediate future, because this project only extends a roadway but does not connect to any other roadway, little to no traffic will occur on the new roadway. No significant TAC emissions impacts will occur and no mitigation measures are recommended.

5.2.4 Accidental Release/Acutely Hazardous Air Emissions

The proposed project is not expected to result in any accidental release of acutely hazardous air emissions. Compliance with the City and SJVAPCD rules and regulations will ensure that no significant accidental release/acutely hazardous air emissions impacts will occur. No mitigation measures are recommended.

5.3 AIR QUALITY MANAGEMENT PLAN CONSISTENCY

A consistency analysis determination plays an essential role in local agency project review by linking local planning and unique individual projects to the AQMP in the following ways. It fulfills the CEQA goal of fully informing local agency decision makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information, assuring local decision makers that they are making real contributions to clean air goals defined in the most current AQMP.

Table H: Existing With Approved Projects Without and With Project CO Concentrations[1,2]

Intersection	Receptor Distance to Road Centerline (Meters)	Project-Related Increase 1 Hr/8 Hr (ppm)	Without/With Project One-Hour CO Concentration (ppm)	Without/With Project Eight-Hour CO Concentration (ppm)	Exceeds State Standards?[3] 1 Hr	Exceeds State Standards?[3] 8 Hr
Trinity Parkway and McAuliffe Road	14 / 14	0.3 / 0.2	8.9 / 9.2	5.8 / 6.0	No	No
	14 / 14	0.2 / 0.2	8.5 / 8.7	5.5 / 5.7	No	No
	14 / 14	0.4 / 0.3	8.0 / 8.4	5.2 / 5.5	No	No
	10 / 10	0.3 / 0.2	7.9 / 8.2	5.1 / 5.3	No	No
Aksland Drive/ Otto Drive	17 / 17	1.6 / 1.2	6.8 / 8.4	4.3 / 5.5	No	No
	17 / 17	1.1 / 0.8	6.8 / 7.9	4.3 / 5.1	No	No
	17 / 17	1.4 / 0.9	6.4 / 7.8	4.1 / 5.0	No	No
	14 / 14	1.4 / 1.0	6.3 / 7.7	4.0 / 5.0	No	No
Mariners Drive/ Otto Drive	12 / 12	2.5 / 1.8	8.2 / 10.7	5.3 / 7.1	No	No
	12 / 12	1.9 / 1.3	8.0 / 9.9	5.2 / 6.5	No	No
	8 / 8	1.8 / 1.3	7.5 / 9.3	4.8 / 6.1	No	No
	7 / 7	1.8 / 1.2	7.3 / 9.1	4.7 / 5.9	No	No
Mariners Drive/ Whitewater Lane	12 / 12	1.7 / 1.2	7.2 / 8.9	4.6 / 5.8	No	No
	12 / 12	1.5 / 1.1	7.1 / 8.6	4.5 / 5.6	No	No
	12 / 12	1.6 / 1.1	7.0 / 8.6	4.5 / 5.6	No	No
	8 / 8	1.6 / 1.2	6.8 / 8.4	4.3 / 5.5	No	No
Mariners Drive/ Blackswain Place	12 / 12	1.7 / 1.2	7.2 / 8.9	4.6 / 5.8	No	No
	8 / 8	1.5 / 1.1	7.1 / 8.6	4.5 / 5.6	No	No
	8 / 8	1.5 / 1.1	7.1 / 8.6	4.5 / 5.6	No	No
	8 / 8	1.6 / 1.1	6.7 / 8.3	4.3 / 5.4	No	No
Mariners Drive/ Sturgeon Road	12 / 12	1.7 / 1.2	7.3 / 9.0	4.7 / 5.9	No	No
	12 / 12	1.5 / 1.1	7.2 / 8.7	4.6 / 5.7	No	No
	12 / 12	1.5 / 1.1	7.1 / 8.6	4.5 / 5.6	No	No
	8 / 8	1.5 / 1.1	6.8 / 8.3	4.3 / 5.4	No	No
Mariners Drive/ Hammer Lane	20 / 20	1.7 / 1.2	9.7 / 11.4	6.4 / 7.6	No	No
	14 / 14	1.7 / 1.2	9.1 / 10.8	5.9 / 7.1	No	No
	14 / 14	1.2 / 0.8	8.9 / 10.1	5.8 / 6.6	No	No
	8 / 8	1.3 / 0.9	8.7 / 10.0	5.7 / 6.6	No	No

Source: LSA Associates, Inc., April 2006.

1 Includes ambient one-hour concentration of 4.9 ppm and ambient eight-hour concentration of 3.0 ppm; measured at the Hazelton-Hd, Stockton, CA, AQ Station (San Joaquin County).

2 Assumes traffic is utilizing Aksland Drive/Trinity Parkway between McAuliffe Way and Otto Drive and that the Segment/Bear Creek Bridge has been constructed.

3 The State one-hour standard is 20 ppm, and the eight-hour standard is 9 ppm.

Table I: 2025 Without and With Project CO Concentrations[1]

Intersection	Receptor Distance to Road Centerline (Meters)	Project Related Increase 1 Hr /8 Hr (ppm)	Without/With Project One-Hour CO Concentration (ppm)	Without/With Project Eight-Hour CO Concentration (ppm)	Exceeds State Standards?[2] 1 Hr	8 Hr
Trinity Parkway/ McAuliffe Road	14 / 14	0.0 / 0.0	5.7 / 5.7	3.6 / 3.6	No	No
	14 / 12	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
	12 / 10	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
	10 / 10	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
Aksland Drive/ Otto Drive	17 / 17	0.2 / 0.1	5.4 / 5.6	3.4 / 3.5	No	No
	17 / 17	0.3 / 0.2	5.3 / 5.6	3.3 / 3.5	No	No
	17 / 17	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 14	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
Mariners Drive/ Otto Drive	17 / 17	0.2 / 0.1	5.3 / 5.5	3.3 / 3.4	No	No
	16 / 16	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 14	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 14	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
Mariners Drive/ Whitewater Lane	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
Mariners Drive/ Blackswain Place	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
Mariners Drive/ Sturgeon Road	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
Mariners Drive/ Hammer Lane	21 / 21	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
	20 / 21	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 20	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	14 / 14	0.0 / 0.0	5.3 / 5.3	3.3 / 3.3	No	No

Source: LSA Associates, Inc., April 2006.

[1] Includes ambient one-hour concentration of 4.9 ppm and ambient eight-hour concentration of 3.0 ppm; measured at the Hazelton-Hd, Stockton, CA, AQ Station (San Joaquin County).

[2] The State one-hour standard is 20 ppm, and the eight-hour standard is 9 ppm.

Table J: 2035 Without and With Project CO Concentrations[1]

Intersection	Receptor Distance to Road Centerline (Meters)	Project Related Increase 1 Hr /8 Hr (ppm)	Without/With Project One-Hour CO Concentration (ppm)	Without/With Project Eight-Hour CO Concentration (ppm)	Exceeds State Standards?[2] 1 Hr	Exceeds State Standards?[2] 8 Hr
Trinity Parkway/ McAuliffe Road	14 / 14	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No
	14 / 12	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	12 / 10	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
	10 / 10	0.1 / 0.1	5.3 / 5.4	3.3 / 3.4	No	No
Aksland Drive/ Otto Drive	21 / 21	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
	21 / 21	0.2 / 0.1	5.4 / 5.6	3.4 / 3.5	No	No
	19 / 19	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
	17 / 15	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
Mariners Drive/ Otto Drive	14 / 16	0.1 / 0.1	5.5 / 5.6	3.4 / 3.5	No	No
	14 / 14	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
	14 / 14	0.1 / 0.0	5.4 / 5.5	3.4 / 3.4	No	No
	14 / 14	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No
Mariners Drive/ Whitewater Lane	12 / 12	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
Mariners Drive/ Blackswain Place	12 / 12	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
Mariners Drive/ Sturgeon Road	12 / 12	0.1 / 0.0	5.0 / 5.1	3.1 / 3.1	No	No
	12 / 12	0.1 / 0.0	5.0 / 5.1	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
	8 / 8	0.0 / 0.0	5.0 / 5.0	3.1 / 3.1	No	No
Mariners Drive/ Hammer Lane	24 / 24	0.0 / 0.0	5.6 / 5.6	3.5 / 3.5	No	No
	24 / 24	0.0 / 0.0	5.5 / 5.5	3.4 / 3.4	No	No
	22 / 22	0.0 / 0.0	5.5 / 5.5	3.4 / 3.4	No	No
	16 / 16	0.0 / 0.0	5.4 / 5.4	3.4 / 3.4	No	No

Source: LSA Associates, Inc., April 2006.

[1] Includes ambient one-hour concentration of 4.9 ppm and ambient eight-hour concentration of 3.0 ppm; measured at the Hazelton-Hd, Stockton, CA, AQ Station (San Joaquin County).

[2] The State one-hour standard is 20 ppm, and the eight-hour standard is 9 ppm.

An AQMP describes air pollution control strategies to be taken by counties or regions classified as nonattainment areas. Currently, the project region is in nonattainment for ozone, PM_{10}, and $PM_{2.5}$. The AQMP's main purpose is to bring the area into compliance with the requirements of federal and State air quality standards. Implementation of the proposed project would contribute to the delay of the attainment in the region. However, the proposed project has been considered in preparation of the General Plan and, therefore, is consistent with the AQMP.

As shown above, the proposed project will not significantly contribute to or cause deterioration of existing air quality; therefore, mitigation measures are not required for the long-term operation of the project. Hence, the proposed project is considered to be consistent with the General Plans of the City of Stockton and the County of San Joaquin and is therefore consistent with the AQMP.

5.4 MITIGATION MEASURES

5.4.1 Construction Impacts

AIR-1: The SJVAPCD Regulation VIII, Control Measures for Construction Emissions of PM_{10} (as shown in Tables F and G), are required to be implemented at all construction sites. Compliance with the above Regulation VIII requirements would lessen the fugitive dust impact during construction to a level considered less than significant.

AIR-2: Short-Term, Construction Equipment Exhaust-Related Impacts

A. The project contractors are required to implement all feasible measures identified in Tables F, G, and H.

AIR-3: Asphalt paving conducted on site shall adhere to rules and regulations stated in the SJVAPCD Rulebook. Compliance with Rule 4641, Asphalt Paving, would lessen impacts from asphalt paving to a level considered less than significant.

The above mitigation measures will reduce construction impacts to the extent feasible.

5.4.2 Operational Impacts

There are no operational impacts.

6.0 REFERENCES

California Air Resources Board. Web site: http://www.arb.ca.gov.

Fehr & Peers. Atlas Tract EIR Traffic Impact Analysis. January 2006.

San Joaquin Valley Air Pollution Control District. Air Quality Attainment Plan. 2001.

San Joaquin Valley Air Pollution Control District. *Guide for Assessing and Mitigating the Air Quality Impacts.* Adopted August 20, 1998, and revised January 10, 2002.

Western Regional Climate Center. Web Site: http://www.wrcc.dri.edu.

APPENDIX A

CALINE4 MODEL PRINTOUTS

TRINITY PARKWAY EXTENSION PHASE 2

AIR QUALITY CO HOT SPOT ANALYSIS

CALINE4 MODEL PRINTOUTS

EXISTING BASELINE CONDITIONS

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Trinity NBA	4	-150	4	0	AG	811	10.2	.0	10.0
B. Trinity NBD	4	0	4	150	AG	1310	6.6	.0	10.0
C. Trinity NBL	2	-150	0	0	AG	0	6.0	.0	10.0
D. Trinity SBA	-7	150	-7	0	AG	644	9.9	.0	10.0
E. Trinity SBD	-7	0	-7	-150	AG	704	6.3	.0	10.0
F. Trinity SBL	-5	150	0	0	AG	659	15.4	.0	10.0
G. McAuliff EBA	-150	0	0	0	AG	0	6.3	.0	10.0
H. McAuliff EBD	0	0	150	0	AG	779	15.2	.0	10.0
I. McAuliff EBL	-150	-2	0	0	AG	0	6.3	.0	10.0
J. McAuliff WBA	150	5	0	5	AG	619	15.4	.0	10.0
K. McAuliff WBD	0	5	-150	5	AG	0	6.3	.0	10.0
L. McAuliff WBL	150	5	0	0	AG	60	14.1	.0	10.0
M. Trinity NBAX	4	-750	4	-150	AG	811	6.0	.0	10.0
N. Trinity NBDX	4	150	4	750	AG	1310	6.0	.0	10.0
O. Trinity SBAX	-7	750	-7	150	AG	1303	6.0	.0	10.0
P. Trinity SBDX	-7	-150	-7	-750	AG	704	6.0	.0	10.0
Q. McAulif EBAX	-750	0	-150	0	AG	0	6.3	.0	10.0
R. McAulif EBDX	150	0	750	0	AG	779	6.3	.0	10.0
S. McAulif WBAX	750	5	150	5	AG	679	6.3	.0	10.0
T. McAulif WBDX	-150	5	-750	5	AG	0	6.3	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	10	-7	1.8
2. NW	*	-14	12	1.8
3. SW	*	-14	-7	1.8
4. NE	*	10	12	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	12	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	12	1.8
9. SE mdblk	*	10	-150	1.8
10. NW mdblk	*	-14	150	1.8
11. SW mdblk	*	-14	-150	1.8
12. NE mdblk	*	10	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	12	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	12	1.8
17. SE blk	*	10	-600	1.8
18. NW blk	*	-14	600	1.8
19. SW blk	*	-14	-600	1.8
20. NE blk	*	10	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	350.	4.0	.0	1.1	.0	.4	.0	1.0	.0	.8
2. NW	98.	3.6	.0	.3	.0	.4	.0	.5	.0	.9
3. SW	83.	3.1	.3	.0	.0	.0	.3	.0	.0	1.4
4. NE	188.	2.9	1.0	.2	.0	.0	.2	.0	.0	.6
5. ES mdblk	282.	2.9	.0	.1	.0	.0	.0	.1	.0	1.7
6. WN mdblk	92.	1.1	.0	.0	.0	.0	.0	.1	.0	.3
7. WS mdblk	87.	1.1	.0	.0	.0	.0	.0	.0	.0	.3
8. EN mdblk	259.	2.7	.1	.0	.0	.0	.0	.0	.0	1.0
9. SE mdblk	355.	2.2	1.0	.2	.0	.2	.1	.2	.0	.0
10. NW mdblk	169.	3.0	.1	.5	.0	.9	.0	1.1	.0	.2
11. SW mdblk	7.	1.9	.4	.2	.0	.1	.6	.2	.0	.1
12. NE mdblk	188.	2.5	.1	1.2	.0	.3	.0	.6	.0	.0
13. ES blk	276.	1.5	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	89.	.4	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	88.	.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	355.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	2.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	1.9	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
		CONC/LINK (PPM)											
1. SE	*	.0	.5	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
2. NW	*	.0	1.1	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0
3. SW	*	.0	.7	.0	.1	.0	.0	.0	.0	.0	.1	.1	.0
4. NE	*	.0	.6	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
5. ES mdblk	*	.0	.8	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
7. WS mdblk	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
8. EN mdblk	*	.0	1.4	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	.4	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.7	.0
17. SE blk	*	.0	.0	.0	.0	.8	.0	.0	.3	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.5	1.2	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.3	.0	.0	.7	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	1.2	.5	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Askland NBA	*	7	-150	7	0	*	AG	0	6.3	.0	10.0
B. Askland NBD	*	7	0	7	150	*	AG	721	7.0	.0	10.0
C. Askland NBL	*	5	-150	0	0	*	AG	0	6.3	.0	10.0
D. Askland SBA	*	-11	150	-11	0	*	AG	0	6.3	.0	10.0
E. Askland SBD	*	-11	0	-11	-150	*	AG	0	6.3	.0	10.0
F. Askland SBL	*	-9	150	0	0	*	AG	604	15.4	.0	10.0
G. Otto Dri EBA	*	-150	-7	0	-7	*	AG	0	6.3	.0	10.0
H. Otto Dri EBD	*	0	-7	150	-7	*	AG	604	7.0	.0	10.0
I. Otto Dri EBL	*	-150	-5	0	0	*	AG	0	6.3	.0	10.0
J. Otto Dri WBA	*	150	9	0	9	*	AG	721	11.2	.0	13.5
K. Otto Dri WBD	*	0	9	-150	9	*	AG	0	6.3	.0	10.0
L. Otto Dri WBL	*	150	5	0	0	*	AG	0	6.3	.0	10.0
M. Askland NBAX	*	7	-750	7	-150	*	AG	0	6.3	.0	10.0
N. Askland NBDX	*	7	150	7	750	*	AG	721	6.3	.0	10.0
O. Askland SBAX	*	-11	750	-11	150	*	AG	604	6.3	.0	10.0
P. Askland SBDX	*	-11	-150	-11	-750	*	AG	0	6.3	.0	10.0
Q. Otto Dr EBAX	*	-750	-7	-150	-7	*	AG	0	6.3	.0	10.0
R. Otto Dr EBDX	*	150	-7	750	-7	*	AG	604	6.3	.0	10.0
S. Otto Dr WBAX	*	750	9	150	9	*	AG	721	6.3	.0	13.5
T. Otto Dr WBDX	*	-150	9	-750	9	*	AG	0	6.3	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	14	-14	1.8
2. NW	*	-17	15	1.8
3. SW	*	-17	-14	1.8
4. NE	*	14	17	1.8
5. ES mdblk	*	150	-14	1.8
6. WN mdblk	*	-150	15	1.8
7. WS mdblk	*	-150	-14	1.8
8. EN mdblk	*	150	17	1.8
9. SE mdblk	*	14	-150	1.8
10. NW mdblk	*	-17	150	1.8
11. SW mdblk	*	-17	-150	1.8
12. NE mdblk	*	14	150	1.8
13. ES blk	*	600	-14	1.8
14. WN blk	*	-600	15	1.8
15. WS blk	*	-600	-14	1.8
16. EN blk	*	600	17	1.8
17. SE blk	*	14	-600	1.8
18. NW blk	*	-17	600	1.8
19. SW blk	*	-17	-600	1.8
20. NE blk	*	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	350.	1.9	.0	.6	.0	.0	.0	.6	.0	.3
2. NW	96.	1.9	.0	.2	.0	.0	.0	.4	.0	.1
3. SW	83.	1.0	.0	.0	.0	.0	.0	.0	.0	.5
4. NE	98.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	285.	1.2	.0	.0	.0	.0	.0	.1	.0	.6
6. WN mdblk	92.	.7	.0	.0	.0	.0	.0	.1	.0	.0
7. WS mdblk	85.	.6	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	260.	1.3	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	358.	.7	.0	.1	.0	.0	.0	.2	.0	.0
10. NW mdblk	163.	1.5	.0	.3	.0	.0	.0	1.1	.0	.0
11. SW mdblk	5.	.6	.0	.1	.0	.0	.0	.3	.0	.0
12. NE mdblk	191.	1.2	.0	.7	.0	.0	.0	.5	.0	.0
13. ES blk	278.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	88.	.2	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	85.	.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	2.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	172.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	5.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*						CONC/LINK (PPM)						
1. SE	*	.0	.3	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
2. NW	*	.0	.9	.0	.0	.0	.0	.0	.0	.0	.2	.1	.0
3. SW	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0
4. NE	*	.0	1.0	.0	.0	.0	.0	.0	.0	.0	.2	.1	.0
5. ES mdblk	*	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
7. WS mdblk	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
8. EN mdblk	*	.0	1.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.6	.3	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.7	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.3	.6	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.7	.2	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	5	-150	5	0	*	AG	140	9.6	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	150	6.6	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	711	15.4	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	70	9.6	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	654	7.1	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	0	6.3	.0	10.0
G. Otto Dri EBA	*	-150	-5	0	-5	*	AG	594	15.4	.0	10.0
H. Otto Dri EBD	*	0	-5	150	-5	*	AG	0	6.3	.0	10.0
I. Otto Dri EBL	*	-150	-5	0	0	*	AG	10	14.1	.0	10.0
J. Otto Dri WBA	*	150	0	0	0	*	AG	0	6.3	.0	10.0
K. Otto Dri WBD	*	0	0	-150	0	*	AG	721	15.2	.0	10.0
L. Otto Dri WBL	*	150	2	0	0	*	AG	0	6.3	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	851	6.3	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	150	6.3	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	70	6.3	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	654	6.3	.0	10.0
Q. Otto Dr EBAX	*	-750	-5	-150	-5	*	AG	604	6.3	.0	10.0
R. Otto Dr EBDX	*	150	-5	750	-5	*	AG	0	6.3	.0	10.0
S. Otto Dr WBAX	*	750	0	150	0	*	AG	0	6.3	.0	10.0
T. Otto Dr WBDX	*	-150	0	-750	0	*	AG	721	6.3	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-12	1.8
2. NW	-8	7	1.8
3. SW	-8	-12	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-12	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-12	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-12	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-12	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	3.1	.0	.0	.5	.0	.2	.0	1.1	.0
2. NW	171.	3.3	.1	.0	1.2	.0	.6	.0	.4	.0
3. SW	279.	2.4	.0	.0	.0	.0	.0	.0	1.3	.0
4. NE	262.	2.4	.0	.0	.0	.0	.0	.0	.7	.0
5. ES mdblk	272.	.9	.0	.0	.1	.0	.0	.0	.2	.0
6. WN mdblk	102.	2.6	.0	.0	.2	.0	.0	.0	.8	.0
7. WS mdblk	79.	2.3	.0	.0	.0	.0	.0	.0	1.3	.0
8. EN mdblk	267.	.9	.0	.0	.0	.0	.0	.0	.2	.0
9. SE mdblk	348.	2.4	.2	.0	1.6	.0	.4	.0	.1	.0
10. NW mdblk	178.	1.0	.0	.0	.3	.0	.1	.0	.0	.0
11. SW mdblk	9.	1.7	.1	.0	.8	.0	.7	.0	.0	.0
12. NE mdblk	185.	1.0	.0	.2	.3	.0	.1	.0	.0	.0
13. ES blk	269.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	267.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	1.5	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	179.	.4	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	185.	.5	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*	CONC/LINK (PPM)											
1. SE	*	.0	.0	.9	.0	.0	.0	.0	.0	.0	.0	.0	.1
2. NW	*	.0	.0	.7	.0	.1	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.8	.0	.0	.0	.0	.0	.0	.0	.0	.1
4. NE	*	.0	.0	1.3	.0	.0	.0	.0	.0	.1	.0	.0	.0
5. ES mdblk	*	.0	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.1
6. WN mdblk	*	.0	.0	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.4	.0	.0	.7
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	.4
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	*	.0	.0	.0	.0	.8	.0	.0	.4	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.5	.0	.0	.7	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	5	-150	5	0	*	AG	841	14.2	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	851	8.3	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	10	14.1	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	654	11.6	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	567	6.9	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	0	6.3	.0	10.0
G. Whitewat EBA	*	-150	0	0	0	*	AG	10	12.7	.0	10.0
H. Whitewat EBD	*	0	0	150	0	*	AG	0	6.3	.0	10.0
I. Whitewat EBL	*	-150	-2	0	0	*	AG	10	14.1	.0	10.0
J. Whitewat WBA	*	150	0	0	0	*	AG	0	6.3	.0	10.0
K. Whitewat WBD	*	0	0	-150	0	*	AG	107	7.4	.0	10.0
L. Whitewat WBL	*	150	2	0	0	*	AG	0	6.3	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	851	6.3	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	851	6.3	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	654	6.3	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	567	6.3	.0	10.0
Q. Whitewa EBAX	*	-750	0	-150	0	*	AG	20	6.3	.0	10.0
R. Whitewa EBDX	*	150	0	750	0	*	AG	0	6.3	.0	10.0
S. Whitewa WBAX	*	750	0	150	0	*	AG	0	6.3	.0	10.0
T. Whitewa WBDX	*	-150	0	-750	0	*	AG	107	6.3	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2005nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-7	1.8
2. NW	-8	7	1.8
3. SW	-8	-7	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	188.	2.2	1.7	.0	.0	.0	.3	.0	.0	.0
2. NW	8.	1.8	.0	.4	.0	1.1	.0	.0	.0	.0
3. SW	7.	1.8	.0	.4	.0	1.0	.0	.0	.0	.0
4. NE	187.	2.1	1.6	.0	.0	.0	.2	.0	.0	.0
5. ES mdblk	271.	.3	.1	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	99.	.4	.2	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.4	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	268.	.3	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	2.3	1.6	.1	.0	.2	.2	.0	.0	.0
10. NW mdblk	173.	1.9	.3	.4	.0	1.1	.0	.0	.0	.0
11. SW mdblk	7.	1.7	.7	.2	.0	.1	.6	.0	.0	.0
12. NE mdblk	187.	1.8	.2	1.0	.0	.5	.0	.0	.0	.0
13. ES blk	269.	.2	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	86.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	268.	.2	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	1.4	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.8	.0	.0	.3	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.5	.7	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.5	.0	.0	.6	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.8	.4	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	2	-150	2	0	*	AG	851	14.2	.0	10.0
B. Mariners NBD	*	2	0	2	150	*	AG	841	8.3	.0	10.0
C. Mariners NBL	*	2	-150	0	0	*	AG	0	6.3	.0	10.0
D. Mariners SBA	*	-5	150	-5	0	*	AG	557	10.9	.0	10.0
E. Mariners SBD	*	-5	0	-5	-150	*	AG	577	6.9	.0	10.0
F. Mariners SBL	*	-5	150	0	0	*	AG	10	14.1	.0	10.0
G. Blackswa EBA	*	-150	0	0	0	*	AG	0	6.9	.0	10.0
H. Blackswa EBD	*	0	0	150	0	*	AG	30	8.1	.0	10.0
I. Blackswa EBL	*	-150	-2	0	0	*	AG	0	6.9	.0	10.0
J. Blackswa WBA	*	150	0	0	0	*	AG	10	12.9	.0	10.0
K. Blackswa WBD	*	0	0	-150	0	*	AG	0	6.9	.0	10.0
L. Blackswa WBL	*	150	2	0	0	*	AG	20	14.1	.0	10.0
M. Mariner NBAX	*	2	-750	2	-150	*	AG	851	6.3	.0	10.0
N. Mariner NBDX	*	2	150	2	750	*	AG	841	6.3	.0	10.0
O. Mariner SBAX	*	-5	750	-5	150	*	AG	567	6.3	.0	10.0
P. Mariner SBDX	*	-5	-150	-5	-750	*	AG	577	6.3	.0	10.0
Q. Blacksw EBAX	*	-750	0	-150	0	*	AG	0	6.9	.0	10.0
R. Blacksw EBDX	*	150	0	750	0	*	AG	30	6.9	.0	10.0
S. Blacksw WBAX	*	750	0	150	0	*	AG	30	6.9	.0	10.0
T. Blacksw WBDX	*	-150	0	-750	0	*	AG	0	6.9	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2005nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	8	-7	1.8
2. NW	*	-12	7	1.8
3. SW	*	-12	-7	1.8
4. NE	*	8	7	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	7	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	7	1.8
9. SE mdblk	*	8	-150	1.8
10. NW mdblk	*	-12	150	1.8
11. SW mdblk	*	-12	-150	1.8
12. NE mdblk	*	8	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	7	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	7	1.8
17. SE blk	*	8	-600	1.8
18. NW blk	*	-12	600	1.8
19. SW blk	*	-12	-600	1.8
20. NE blk	*	8	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2005nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	188.	2.2	1.7	.0	.0	.0	.3	.0	.0	.0
2. NW	171.	1.6	.8	.0	.0	.0	.5	.0	.0	.0
3. SW	171.	1.6	.8	.0	.0	.0	.6	.0	.0	.0
4. NE	187.	2.2	1.6	.0	.0	.0	.3	.0	.0	.0
5. ES mdblk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	92.	.3	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	89.	.3	.1	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	262.	.4	.1	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	2.3	1.6	.1	.0	.1	.2	.0	.0	.0
10. NW mdblk	173.	1.8	.3	.4	.0	.9	.0	.0	.0	.0
11. SW mdblk	8.	1.7	.8	.1	.0	.0	.6	.0	.0	.0
12. NE mdblk	186.	1.8	.2	.9	.0	.3	.0	.0	.0	.0
13. ES blk	273.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	93.	.2	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	92.	.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	266.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	1.3	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

	CONC/LINK (PPM)											
RECEPTOR	I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.8	.0	.0	.3	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.4	.6	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.5	.0	.0	.6	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.8	.3	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		LINK COORDINATES (M)									
A. Mariners NBA	*	5	-150	5	0	*	AG	821	14.2	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	831	8.3	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	30	14.1	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	577	10.9	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	694	7.1	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	0	6.3	.0	10.0
G. Sturgeon EBA	*	-150	0	0	0	*	AG	127	12.9	.0	10.0
H. Sturgeon EBD	*	0	0	150	0	*	AG	0	6.9	.0	10.0
I. Sturgeon EBL	*	-150	-2	0	0	*	AG	10	14.1	.0	10.0
J. Sturgeon WBA	*	150	0	0	0	*	AG	0	6.9	.0	10.0
K. Sturgeon WBD	*	0	0	-150	0	*	AG	40	8.1	.0	10.0
L. Sturgeon WBL	*	150	2	0	0	*	AG	0	6.9	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	851	6.3	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	831	6.3	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	577	6.3	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	694	6.3	.0	10.0
Q. Sturgeo EBAX	*	-750	0	-150	0	*	AG	137	6.9	.0	10.0
R. Sturgeo EBDX	*	150	0	750	0	*	AG	0	6.9	.0	10.0
S. Sturgeo WBAX	*	750	0	150	0	*	AG	0	6.9	.0	10.0
T. Sturgeo WBDX	*	-150	0	-750	0	*	AG	40	6.9	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2005nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	12	-7	1.8
2. NW	*	-8	7	1.8
3. SW	*	-8	-7	1.8
4. NE	*	12	7	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	7	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	7	1.8
9. SE mdblk	*	12	-150	1.8
10. NW mdblk	*	-8	150	1.8
11. SW mdblk	*	-8	-150	1.8
12. NE mdblk	*	12	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	7	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	7	1.8
17. SE blk	*	12	-600	1.8
18. NW blk	*	-8	600	1.8
19. SW blk	*	-8	-600	1.8
20. NE blk	*	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	188.	2.3	1.6	.0	.0	.0	.3	.0	.0	.0
2. NW	171.	1.9	.8	.0	.0	.0	.7	.0	.1	.0
3. SW	171.	1.8	.8	.0	.0	.0	.7	.0	.0	.0
4. NE	187.	2.2	1.5	.0	.0	.0	.3	.0	.0	.0
5. ES mdblk	271.	.4	.1	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	99.	.6	.1	.0	.0	.0	.0	.0	.3	.0
7. WS mdblk	82.	.6	.0	.0	.0	.0	.0	.0	.3	.0
8. EN mdblk	268.	.4	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	352.	2.4	1.6	.0	.0	.1	.3	.0	.0	.0
10. NW mdblk	173.	1.8	.2	.4	.0	.9	.0	.0	.0	.0
11. SW mdblk	8.	1.8	.7	.1	.0	.0	.7	.0	.0	.0
12. NE mdblk	186.	1.8	.2	.9	.0	.4	.1	.0	.0	.0
13. ES blk	268.	.2	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.4	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	86.	.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	267.	.2	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	1.3	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.8	.0	.0	.4	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.4	.6	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.5	.0	.0	.7	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.8	.3	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	7	-150	7	0	AG	320	14.4	.0	10.0
B. Mariners NBD	7	0	7	150	AG	1122	15.4	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	10	14.1	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	50	12.7	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	610	14.7	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	1054	15.4	.0	10.0
G. Hammer L EBA	-150	-7	0	-7	AG	50	9.6	.0	10.0
H. Hammer L EBD	0	-7	150	-7	AG	1374	7.1	.0	10.0
I. Hammer L EBL	-150	-5	0	0	AG	10	14.1	.0	10.0
J. Hammer L WBA	150	12	0	12	AG	1112	10.1	.0	13.5
K. Hammer L WBD	0	12	-150	12	AG	60	6.6	.0	11.8
L. Hammer L WBL	150	9	0	0	AG	560	15.2	.0	10.0
M. Mariner NBAX	7	-750	7	-150	AG	330	6.3	.0	10.0
N. Mariner NBDX	7	150	7	750	AG	1122	6.3	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	1104	6.3	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	610	6.3	.0	10.0
Q. Hammer EBAX	-750	-7	-150	-7	AG	60	6.3	.0	10.0
R. Hammer EBDX	150	-7	750	-7	AG	1374	6.3	.0	10.0
S. Hammer WBAX	750	12	150	12	AG	1672	6.3	.0	13.5
T. Hammer WBDX	-150	12	-750	12	AG	60	6.3	.0	11.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	14	-14	1.8
2. NW	*	-8	20	1.8
3. SW	*	-8	-14	1.8
4. NE	*	14	21	1.8
5. ES mdblk	*	150	-14	1.8
6. WN mdblk	*	-150	20	1.8
7. WS mdblk	*	-150	-14	1.8
8. EN mdblk	*	150	21	1.8
9. SE mdblk	*	14	-150	1.8
10. NW mdblk	*	-8	150	1.8
11. SW mdblk	*	-8	-150	1.8
12. NE mdblk	*	14	150	1.8
13. ES blk	*	600	-14	1.8
14. WN blk	*	-600	20	1.8
15. WS blk	*	-600	-14	1.8
16. EN blk	*	600	21	1.8
17. SE blk	*	14	-600	1.8
18. NW blk	*	-8	600	1.8
19. SW blk	*	-8	-600	1.8
20. NE blk	*	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2005nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	352.	4.8	.1	1.9	.0	.0	.0	1.0	.0	.6
2. NW	98.	4.2	.0	.7	.0	.0	.0	.9	.0	.2
3. SW	10.	3.4	.0	1.1	.0	.1	.3	1.6	.0	.0
4. NE	349.	3.6	.0	2.3	.0	.0	.0	1.0	.0	.0
5. ES mdblk	285.	2.7	.0	.2	.0	.0	.0	.2	.0	1.3
6. WN mdblk	93.	1.5	.0	.2	.0	.0	.0	.2	.0	.1
7. WS mdblk	85.	1.5	.0	.1	.0	.0	.0	.1	.0	.2
8. EN mdblk	256.	2.7	.0	.0	.0	.0	.1	.0	.0	.3
9. SE mdblk	355.	2.2	.6	.3	.0	.0	.4	.4	.0	.0
10. NW mdblk	169.	4.0	.0	1.1	.0	.1	.0	2.2	.0	.1
11. SW mdblk	6.	2.7	.2	.4	.0	.0	1.2	.3	.0	.0
12. NE mdblk	189.	3.8	.0	2.4	.0	.0	.2	.9	.0	.0
13. ES blk	278.	2.2	.0	.1	.0	.0	.0	.1	.0	.0
14. WN blk	91.	.6	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	85.	.6	.0	.1	.0	.0	.0	.1	.0	.0
16. EN blk	263.	2.1	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	357.	1.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	2.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	1.9	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	*	.0	.4	.0	.4	.0	.1	.2	.0	.0	.0	.0	.0
2. NW	*	.0	1.4	.0	.5	.0	.0	.0	.0	.0	.3	.2	.0
3. SW	*	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.5	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.3	.0	.2	.0	.0	.0	.0	.0	.2	.2	.0
7. WS mdblk	*	.0	.2	.0	.2	.0	.0	.0	.0	.0	.1	.2	.0
8. EN mdblk	*	.0	1.4	.0	.7	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.2	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.1	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.3	.5	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	1.4	.0
17. SE blk	*	.0	.0	.0	.0	.3	.0	.0	.3	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.5	1.1	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.2	.0	.0	.6	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	1.1	.5	.0	.0	.0	.0	.0

TRINITY PARKWAY EXTENSION PHASE 2

AIR QUALITY CO HOT SPOT ANALYSIS

CALINE4 MODEL PRINTOUTS

EXISTING PLUS PROJECT CONDITIONS

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Trinity NBA	4	-150	4	0	AG	964	10.2	.0	10.0
B. Trinity NBD	4	0	4	150	AG	1463	7.0	.0	10.0
C. Trinity NBL	2	-150	0	0	AG	0	6.0	.0	10.0
D. Trinity SBA	-7	150	-7	0	AG	906	10.2	.0	10.0
E. Trinity SBD	-7	0	-7	-150	AG	966	6.3	.0	10.0
F. Trinity SBL	-5	150	0	0	AG	659	15.4	.0	10.0
G. McAuliff EBA	-150	0	0	0	AG	0	6.3	.0	10.0
H. McAuliff EBD	0	0	150	0	AG	779	15.2	.0	10.0
I. McAuliff EBL	-150	-2	0	0	AG	0	6.3	.0	10.0
J. McAuliff WBA	150	5	0	5	AG	619	15.4	.0	10.0
K. McAuliff WBD	0	5	-150	5	AG	0	6.3	.0	10.0
L. McAuliff WBL	150	5	0	0	AG	60	14.1	.0	10.0
M. Trinity NBAX	4	-750	4	-150	AG	964	6.0	.0	10.0
N. Trinity NBDX	4	150	4	750	AG	1463	6.0	.0	10.0
O. Trinity SBAX	-7	750	-7	150	AG	1565	6.0	.0	10.0
P. Trinity SBDX	-7	-150	-7	-750	AG	966	6.0	.0	10.0
Q. McAulif EBAX	-750	0	-150	0	AG	0	6.3	.0	10.0
R. McAulif EBDX	150	0	750	0	AG	779	6.3	.0	10.0
S. McAulif WBAX	750	5	150	5	AG	679	6.3	.0	10.0
T. McAulif WBDX	-150	5	-750	5	AG	0	6.3	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	10	-7	1.8
2. NW	*	-14	12	1.8
3. SW	*	-14	-7	1.8
4. NE	*	10	12	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	12	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	12	1.8
9. SE mdblk	*	10	-150	1.8
10. NW mdblk	*	-14	150	1.8
11. SW mdblk	*	-14	-150	1.8
12. NE mdblk	*	10	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	12	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	12	1.8
17. SE blk	*	10	-600	1.8
18. NW blk	*	-14	600	1.8
19. SW blk	*	-14	-600	1.8
20. NE blk	*	10	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	350.	4.3	.0	1.3	.0	.5	.0	1.0	.0	.8
2. NW	98.	3.8	.0	.4	.0	.6	.0	.5	.0	.9
3. SW	83.	3.3	.4	.0	.0	.0	.4	.0	.0	1.4
4. NE	188.	3.2	1.2	.2	.0	.0	.3	.0	.0	.6
5. ES mdblk	282.	3.0	.0	.1	.0	.1	.0	.1	.0	1.7
6. WN mdblk	92.	1.2	.0	.0	.0	.0	.0	.1	.0	.3
7. WS mdblk	87.	1.1	.0	.0	.0	.0	.0	.0	.0	.3
8. EN mdblk	259.	2.8	.1	.0	.0	.0	.0	.0	.0	1.0
9. SE mdblk	355.	2.5	1.2	.2	.0	.2	.2	.2	.0	.0
10. NW mdblk	169.	3.5	.1	.5	.0	1.3	.0	1.1	.0	.2
11. SW mdblk	7.	2.2	.4	.2	.0	.1	.8	.2	.0	.1
12. NE mdblk	189.	2.9	.0	1.4	.0	.5	.1	.7	.0	.0
13. ES blk	276.	1.5	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	89.	.4	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	88.	.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	1.6	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	2.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.7	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	2.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*	CONC/LINK (PPM)											
1. SE	*	.0	.5	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
2. NW	*	.0	1.1	.0	.1	.0	.0	.0	.0	.0	.1	.0	.0
3. SW	*	.0	.7	.0	.1	.0	.0	.0	.0	.0	.1	.1	.0
4. NE	*	.0	.6	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0
5. ES mdblk	*	.0	.8	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
7. WS mdblk	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.1	.1	.0
8. EN mdblk	*	.0	1.4	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.1	.2	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.8	.4	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.5	.7	.0
17. SE blk	*	.0	.0	.0	.0	.9	.0	.0	.4	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.6	1.3	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.4	.0	.0	.9	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	1.3	.6	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Askland NBA	7	-150	7	0	AG	0	6.3	.0	10.0
B. Askland NBD	7	0	7	150	AG	904	7.1	.0	10.0
C. Askland NBL	5	-150	0	0	AG	0	6.3	.0	10.0
D. Askland SBA	-11	150	-11	0	AG	262	10.7	.0	10.0
E. Askland SBD	-11	0	-11	-150	AG	0	6.3	.0	10.0
F. Askland SBL	-9	150	0	0	AG	584	15.2	.0	10.0
G. Otto Dri EBA	-150	-7	0	-7	AG	356	10.7	.0	10.0
H. Otto Dri EBD	0	-7	150	-7	AG	940	7.1	.0	10.0
I. Otto Dri EBL	-150	-5	0	0	AG	153	14.1	.0	10.0
J. Otto Dri WBA	150	9	0	9	AG	1362	13.9	.0	13.5
K. Otto Dri WBD	0	9	-150	9	AG	873	7.1	.0	10.0
L. Otto Dri WBL	150	5	0	0	AG	0	6.3	.0	10.0
M. Askland NBAX	7	-750	7	-150	AG	0	6.3	.0	10.0
N. Askland NBDX	7	150	7	750	AG	904	6.3	.0	10.0
O. Askland SBAX	-11	750	-11	150	AG	846	6.3	.0	10.0
P. Askland SBDX	-11	-150	-11	-750	AG	0	6.3	.0	10.0
Q. Otto Dr EBAX	-750	-7	-150	-7	AG	509	6.3	.0	10.0
R. Otto Dr EBDX	150	-7	750	-7	AG	940	6.3	.0	10.0
S. Otto Dr WBAX	750	9	150	9	AG	1362	6.3	.0	13.5
T. Otto Dr WBDX	-150	9	-750	9	AG	873	6.3	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	14	-14	1.8
2. NW	*	-17	15	1.8
3. SW	*	-17	-14	1.8
4. NE	*	14	17	1.8
5. ES mdblk	*	150	-14	1.8
6. WN mdblk	*	-150	15	1.8
7. WS mdblk	*	-150	-14	1.8
8. EN mdblk	*	150	17	1.8
9. SE mdblk	*	14	-150	1.8
10. NW mdblk	*	-17	150	1.8
11. SW mdblk	*	-17	-150	1.8
12. NE mdblk	*	14	150	1.8
13. ES blk	*	600	-14	1.8
14. WN blk	*	-600	15	1.8
15. WS blk	*	-600	-14	1.8
16. EN blk	*	600	17	1.8
17. SE blk	*	14	-600	1.8
18. NW blk	*	-17	600	1.8
19. SW blk	*	-17	-600	1.8
20. NE blk	*	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	350.	2.8	.0	.7	.0	.1	.0	.6	.0	.4
2. NW	96.	3.5	.0	.2	.0	.2	.0	.4	.0	.2
3. SW	81.	1.9	.0	.0	.0	.0	.0	.0	.1	.7
4. NE	99.	2.9	.0	.0	.0	.0	.0	.0	.0	.2
5. ES mdblk	283.	2.2	.0	.0	.0	.0	.0	.1	.0	.9
6. WN mdblk	95.	1.9	.0	.0	.0	.0	.0	.0	.0	.2
7. WS mdblk	82.	1.9	.0	.0	.0	.0	.0	.0	.6	.0
8. EN mdblk	262.	3.0	.0	.0	.0	.0	.0	.0	.1	.2
9. SE mdblk	357.	1.0	.0	.1	.0	.0	.0	.2	.0	.0
10. NW mdblk	165.	2.1	.0	.3	.0	.4	.0	1.0	.0	.0
11. SW mdblk	5.	.9	.0	.1	.0	.0	.0	.2	.0	.0
12. NE mdblk	193.	1.7	.0	.9	.0	.1	.0	.5	.0	.0
13. ES blk	277.	1.8	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	1.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	1.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	1.8	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	360.	.3	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	172.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	3.	.3	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	1.4	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*						CONC/LINK (PPM)						
1. SE	*	.0	.7	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
2. NW	*	.0	2.0	.2	.0	.0	.0	.0	.0	.0	.2	.2	.0
3. SW	*	.0	.7	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0
4. NE	*	.0	2.3	.0	.0	.0	.0	.0	.0	.0	.2	.2	.0
5. ES mdblk	*	.0	.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.4	.8	.0	.0	.0	.0	.0	.0	.1	.1	.0
7. WS mdblk	*	.3	.4	.2	.0	.0	.0	.0	.0	.0	.0	.1	.0
8. EN mdblk	*	.0	2.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.2	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.9	.5	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.9
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.5	.0	.0	.3
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	1.2	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.1	.0	.0	.0	.3	.8	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.9	.3	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	140	9.6	.0	10.0
B. Mariners NBD	5	0	5	150	AG	150	6.6	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	1322	15.4	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	70	9.6	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	1010	9.8	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	0	6.3	.0	10.0
G. Otto Dri EBA	-150	-5	0	-5	AG	950	15.4	.0	10.0
H. Otto Dri EBD	0	-5	150	-5	AG	0	6.3	.0	10.0
I. Otto Dri EBL	-150	-5	0	0	AG	10	14.1	.0	10.0
J. Otto Dri WBA	150	0	0	0	AG	0	6.3	.0	10.0
K. Otto Dri WBD	0	0	-150	0	AG	1332	15.4	.0	10.0
L. Otto Dri WBL	150	2	0	0	AG	0	6.3	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	1462	6.3	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	150	6.3	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	70	6.3	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	1010	6.3	.0	10.0
Q. Otto Dr EBAX	-750	-5	-150	-5	AG	960	6.3	.0	10.0
R. Otto Dr EBDX	150	-5	750	-5	AG	0	6.3	.0	10.0
S. Otto Dr WBAX	750	0	150	0	AG	0	6.3	.0	10.0
T. Otto Dr WBDX	-150	0	-750	0	AG	1332	6.3	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-12	1.8
2. NW	-8	7	1.8
3. SW	-8	-12	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-12	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-12	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-12	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-12	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	5.0	.0	.0	1.0	.0	.4	.0	1.7	.0
2. NW	171.	5.8	.1	.0	2.0	.0	1.3	.0	.7	.0
3. SW	279.	3.8	.0	.0	.0	.0	.0	.0	2.0	.0
4. NE	262.	3.9	.0	.0	.0	.0	.0	.0	1.1	.0
5. ES mdblk	272.	1.4	.0	.0	.2	.0	.0	.0	.3	.0
6. WN mdblk	102.	4.4	.0	.0	.3	.0	.1	.0	1.2	.0
7. WS mdblk	79.	3.7	.0	.0	.0	.0	.0	.0	2.0	.0
8. EN mdblk	267.	1.3	.0	.0	.1	.0	.0	.0	.3	.0
9. SE mdblk	347.	4.2	.2	.0	2.7	.0	.7	.0	.2	.0
10. NW mdblk	178.	1.5	.0	.0	.4	.0	.2	.0	.1	.0
11. SW mdblk	10.	3.0	.1	.0	1.4	.0	1.4	.0	.0	.0
12. NE mdblk	185.	1.4	.0	.2	.4	.0	.2	.0	.1	.0
13. ES blk	268.	.4	.0	.0	.1	.0	.0	.0	.0	.0
14. WN blk	97.	2.2	.0	.0	.1	.0	.0	.0	.0	.0
15. WS blk	84.	1.9	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	267.	.4	.0	.0	.1	.0	.0	.0	.0	.0
17. SE blk	353.	2.2	.0	.0	.0	.0	.0	.0	.1	.0
18. NW blk	180.	.6	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.9	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	185.	.7	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	*	.0	.0	1.4	.0	.0	.0	.0	.0	.1	.0	.0	.2
2. NW	*	.0	.0	1.3	.0	.2	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	1.4	.0	.0	.0	.0	.0	.1	.0	.0	.2
4. NE	*	.0	.0	2.3	.0	.0	.0	.0	.0	.2	.0	.0	.1
5. ES mdblk	*	.0	.0	.4	.0	.0	.0	.0	.0	.1	.0	.0	.2
6. WN mdblk	*	.0	.0	2.8	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	1.6	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.0	.4	.0	.0	.0	.0	.0	.1	.0	.0	.2
9. SE mdblk	*	.0	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.2	.0	.2	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.1	.0	.1	.0	.0	.1	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.6	.0	.0	1.2
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.9	.0	.0	.7
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	*	.0	.0	.1	.0	1.3	.0	.0	.5	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.7	.0	.0	1.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	1452	14.9	.0	10.0
B. Mariners NBD	5	0	5	150	AG	1462	9.8	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	10	14.1	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	1011	14.9	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	924	9.8	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	0	6.3	.0	10.0
G. Whitewat EBA	-150	0	0	0	AG	10	12.7	.0	10.0
H. Whitewat EBD	0	0	150	0	AG	0	6.3	.0	10.0
I. Whitewat EBL	-150	-2	0	0	AG	10	14.1	.0	10.0
J. Whitewat WBA	150	0	0	0	AG	0	6.3	.0	10.0
K. Whitewat WBD	0	0	-150	0	AG	107	7.4	.0	10.0
L. Whitewat WBL	150	2	0	0	AG	0	6.3	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	1462	6.3	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	1462	6.3	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	1011	6.3	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	924	6.3	.0	10.0
Q. Whitewa EBAX	-750	0	-150	0	AG	20	6.3	.0	10.0
R. Whitewa EBDX	150	0	750	0	AG	0	6.3	.0	10.0
S. Whitewa WBAX	750	0	150	0	AG	0	6.3	.0	10.0
T. Whitewa WBDX	-150	0	-750	0	AG	107	6.3	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-7	1.8
2. NW	-8	7	1.8
3. SW	-8	-7	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	189.	3.7	2.9	.0	.0	.0	.6	.0	.0	.0
2. NW	9.	3.2	.0	.8	.0	2.1	.0	.0	.0	.0
3. SW	8.	3.2	.0	.8	.0	2.0	.0	.0	.0	.0
4. NE	188.	3.7	2.7	.0	.0	.0	.6	.0	.0	.0
5. ES mdblk	271.	.5	.2	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	99.	.6	.2	.0	.0	.0	.1	.0	.0	.0
7. WS mdblk	82.	.6	.0	.2	.0	.2	.0	.0	.0	.0
8. EN mdblk	268.	.5	.1	.1	.0	.1	.0	.0	.0	.0
9. SE mdblk	352.	4.0	2.8	.2	.0	.3	.6	.0	.0	.0
10. NW mdblk	173.	3.5	.4	.7	.0	2.0	.1	.0	.0	.0
11. SW mdblk	8.	3.1	1.2	.2	.0	.2	1.3	.0	.0	.0
12. NE mdblk	188.	3.4	.2	1.9	.0	.9	.2	.0	.0	.0
13. ES blk	270.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.4	.1	.0	.0	.0	.0	.0	.0	.0
15. WS blk	86.	.4	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	269.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	2.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	1.9	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.9	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	2.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	I	J	K	L	M	N	O	P	Q	R	S	T
	CONC/LINK (PPM)											
1. SE	.0	.0	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.2	.0	.0	.2	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	1.3	.0	.0	.5	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.7	1.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.7	.0	.0	.9	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	1.3	.5	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	2	-150	2	0	*	AG	1462	14.9	.0	10.0
B. Mariners NBD	*	2	0	2	150	*	AG	1452	9.8	.0	10.0
C. Mariners NBL	*	2	-150	0	0	*	AG	0	6.3	.0	10.0
D. Mariners SBA	*	-5	150	-5	0	*	AG	914	14.9	.0	10.0
E. Mariners SBD	*	-5	0	-5	-150	*	AG	934	9.8	.0	10.0
F. Mariners SBL	*	-5	150	0	0	*	AG	10	14.1	.0	10.0
G. Blackswa EBA	*	-150	0	0	0	*	AG	0	6.9	.0	10.0
H. Blackswa EBD	*	0	0	150	0	*	AG	30	8.1	.0	10.0
I. Blackswa EBL	*	-150	-2	0	0	*	AG	0	6.9	.0	10.0
J. Blackswa WBA	*	150	0	0	0	*	AG	10	12.9	.0	10.0
K. Blackswa WBD	*	0	0	-150	0	*	AG	0	6.9	.0	10.0
L. Blackswa WBL	*	150	2	0	0	*	AG	20	14.1	.0	10.0
M. Mariner NBAX	*	2	-750	2	-150	*	AG	1462	6.3	.0	10.0
N. Mariner NBDX	*	2	150	2	750	*	AG	1452	6.3	.0	10.0
O. Mariner SBAX	*	-5	750	-5	150	*	AG	924	6.3	.0	10.0
P. Mariner SBDX	*	-5	-150	-5	-750	*	AG	934	6.3	.0	10.0
Q. Blacksw EBAX	*	-750	0	-150	0	*	AG	0	6.9	.0	10.0
R. Blacksw EBDX	*	150	0	750	0	*	AG	30	6.9	.0	10.0
S. Blacksw WBAX	*	750	0	150	0	*	AG	30	6.9	.0	10.0
T. Blacksw WBDX	*	-150	0	-750	0	*	AG	0	6.9	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	8	-7	1.8
2. NW	*	-12	7	1.8
3. SW	*	-12	-7	1.8
4. NE	*	8	7	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	7	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	7	1.8
9. SE mdblk	*	8	-150	1.8
10. NW mdblk	*	-12	150	1.8
11. SW mdblk	*	-12	-150	1.8
12. NE mdblk	*	8	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	7	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	7	1.8
17. SE blk	*	8	-600	1.8
18. NW blk	*	-12	600	1.8
19. SW blk	*	-12	-600	1.8
20. NE blk	*	8	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	189.	3.7	2.9	.0	.0	.0	.6	.0	.0	.0
2. NW	9.	3.1	.0	.8	.0	1.9	.0	.0	.0	.0
3. SW	8.	3.0	.0	.8	.0	1.8	.0	.0	.0	.0
4. NE	188.	3.7	2.7	.0	.0	.0	.6	.0	.0	.0
5. ES mdblk	278.	.5	.0	.2	.0	.2	.0	.0	.0	.0
6. WN mdblk	92.	.5	.1	.0	.0	.1	.0	.0	.0	.0
7. WS mdblk	89.	.5	.2	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	262.	.6	.2	.0	.0	.0	.1	.0	.0	.0
9. SE mdblk	352.	4.0	2.8	.2	.0	.3	.6	.0	.0	.0
10. NW mdblk	173.	3.4	.4	.7	.0	1.8	.1	.0	.0	.0
11. SW mdblk	8.	3.1	1.2	.2	.0	.2	1.3	.0	.0	.0
12. NE mdblk	187.	3.3	.3	1.8	.0	.8	.2	.0	.0	.0
13. ES blk	273.	.4	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	92.	.3	.1	.0	.0	.0	.0	.0	.0	.0
15. WS blk	91.	.3	.1	.0	.0	.0	.0	.0	.0	.0
16. EN blk	266.	.4	.1	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	2.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	1.9	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.9	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	2.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	I	J	K	L	M	N	O	P	Q	R	S	T
	CONC/LINK (PPM)											
1. SE	.0	.0	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.2	.0	.0	.2	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	1.3	.0	.0	.5	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.7	.9	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.7	.0	.0	.9	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	1.3	.5	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S Z0= 100. CM ALT= 2. (M)
BRG= WORST CASE VD= .0 CM/S
CLAS= 7 (G) VS= .0 CM/S
MIXH= 1000. M AMB= .0 PPM
SIGTH= 10. DEGREES TEMP= 10.0 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	5	-150	5	0	*	AG	1432	14.9	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	1442	9.8	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	30	14.1	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	934	14.9	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	1051	9.8	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	0	6.3	.0	10.0
G. Sturgeon EBA	*	-150	0	0	0	*	AG	127	12.9	.0	10.0
H. Sturgeon EBD	*	0	0	150	0	*	AG	0	6.9	.0	10.0
I. Sturgeon EBL	*	-150	-2	0	0	*	AG	10	14.1	.0	10.0
J. Sturgeon WBA	*	150	0	0	0	*	AG	0	6.9	.0	10.0
K. Sturgeon WBD	*	0	0	-150	0	*	AG	40	8.1	.0	10.0
L. Sturgeon WBL	*	150	2	0	0	*	AG	0	6.9	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	1462	6.3	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	1442	6.3	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	934	6.3	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	1051	6.3	.0	10.0
Q. Sturgeo EBAX	*	-750	0	-150	0	*	AG	137	6.9	.0	10.0
R. Sturgeo EBDX	*	150	0	750	0	*	AG	0	6.9	.0	10.0
S. Sturgeo WBAX	*	750	0	150	0	*	AG	0	6.9	.0	10.0
T. Sturgeo WBDX	*	-150	0	-750	0	*	AG	40	6.9	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-7	1.8
2. NW	-8	7	1.8
3. SW	-8	-7	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	189.	3.8	2.8	.0	.0	.0	.6	.0	.0	.0
2. NW	170.	3.2	1.4	.0	.0	.0	1.3	.0	.1	.0
3. SW	8.	3.2	.0	.8	.0	1.8	.0	.0	.1	.0
4. NE	188.	3.7	2.6	.0	.0	.0	.6	.0	.0	.0
5. ES mdblk	271.	.6	.2	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	99.	.8	.2	.0	.0	.0	.1	.0	.3	.0
7. WS mdblk	82.	.8	.0	.2	.0	.2	.0	.0	.3	.0
8. EN mdblk	268.	.5	.1	.0	.0	.1	.0	.0	.0	.0
9. SE mdblk	352.	4.1	2.8	.1	.0	.3	.6	.0	.0	.0
10. NW mdblk	173.	3.4	.4	.7	.0	1.9	.1	.0	.0	.0
11. SW mdblk	8.	3.2	1.2	.2	.0	.2	1.4	.0	.0	.0
12. NE mdblk	187.	3.3	.3	1.8	.0	.8	.2	.0	.0	.0
13. ES blk	269.	.3	.1	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.5	.1	.0	.0	.0	.0	.0	.0	.0
15. WS blk	86.	.5	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	268.	.3	.1	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	2.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	1.9	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	2.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	2.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	I	J	K	L	M	N	O	P	Q	R	S	T
						CONC/LINK (PPM)						
1. SE	.0	.0	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.2	.0	.0	.2	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.1	.0	.0	.1	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	1.3	.0	.0	.5	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.7	.9	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.7	.0	.0	1.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	1.3	.5	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2005wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	7	-150	7	0	*	AG	320	14.4	.0	10.0
B. Mariners NBD	*	7	0	7	150	*	AG	1732	15.4	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	10	14.1	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	50	12.7	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	610	14.7	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	1410	15.4	.0	10.0
G. Hammer L EBA	*	-150	-7	0	-7	*	AG	50	9.6	.0	10.0
H. Hammer L EBD	*	0	-7	150	-7	*	AG	1730	8.3	.0	10.0
I. Hammer L EBL	*	-150	-5	0	0	*	AG	10	14.1	.0	10.0
J. Hammer L WBA	*	150	12	0	12	*	AG	1722	10.9	.0	13.5
K. Hammer L WBD	*	0	12	-150	12	*	AG	60	6.6	.0	11.8
L. Hammer L WBL	*	150	9	0	0	*	AG	560	15.2	.0	10.0
M. Mariner NBAX	*	7	-750	7	-150	*	AG	330	6.3	.0	10.0
N. Mariner NBDX	*	7	150	7	750	*	AG	1732	6.3	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	1460	6.3	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	610	6.3	.0	10.0
Q. Hammer EBAX	*	-750	-7	-150	-7	*	AG	60	6.3	.0	10.0
R. Hammer EBDX	*	150	-7	750	-7	*	AG	1730	6.3	.0	10.0
S. Hammer WBAX	*	750	12	150	12	*	AG	2282	6.3	.0	13.5
T. Hammer WBDX	*	-150	12	-750	12	*	AG	60	6.3	.0	11.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2005wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	14	-14	1.8
2. NW	-8	20	1.8
3. SW	-8	-14	1.8
4. NE	14	21	1.8
5. ES mdblk	150	-14	1.8
6. WN mdblk	-150	20	1.8
7. WS mdblk	-150	-14	1.8
8. EN mdblk	150	21	1.8
9. SE mdblk	14	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	14	150	1.8
13. ES blk	600	-14	1.8
14. WN blk	-600	20	1.8
15. WS blk	-600	-14	1.8
16. EN blk	600	21	1.8
17. SE blk	14	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2005wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	352.	6.5	.1	2.7	.0	.0	.0	1.3	.0	.9
2. NW	98.	5.9	.0	1.1	.0	.0	.0	1.2	.0	.3
3. SW	11.	4.3	.0	1.5	.0	.0	.3	2.0	.0	.0
4. NE	349.	5.0	.0	3.4	.0	.0	.0	1.3	.0	.0
5. ES mdblk	286.	3.7	.0	.3	.0	.0	.0	.3	.0	1.8
6. WN mdblk	93.	1.8	.0	.2	.0	.0	.0	.2	.0	.2
7. WS mdblk	84.	1.8	.0	.2	.0	.0	.0	.2	.0	.2
8. EN mdblk	257.	3.8	.0	.0	.0	.0	.1	.0	.0	.4
9. SE mdblk	357.	2.6	.6	.5	.0	.0	.3	.5	.0	.1
10. NW mdblk	168.	5.2	.0	1.5	.0	.1	.0	2.9	.0	.2
11. SW mdblk	6.	3.1	.2	.5	.0	.0	1.2	.4	.0	.1
12. NE mdblk	189.	5.1	.0	3.4	.0	.0	.2	1.2	.0	.0
13. ES blk	278.	2.7	.0	.2	.0	.0	.0	.1	.0	.0
14. WN blk	91.	.7	.0	.1	.0	.0	.0	.0	.0	.0
15. WS blk	85.	.7	.0	.1	.0	.0	.0	.1	.0	.0
16. EN blk	263.	2.7	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	357.	1.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	2.6	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	1.4	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	2.5	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2005wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*						CONC/LINK (PPM)						
1. SE	*	.0	.6	.0	.4	.0	.2	.2	.0	.0	.0	.0	.0
2. NW	*	.0	2.2	.0	.5	.0	.0	.0	.0	.0	.3	.2	.0
3. SW	*	.0	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.1	.2	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.8	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.4	.0	.2	.0	.0	.0	.0	.0	.2	.2	.0
7. WS mdblk	*	.0	.4	.0	.2	.0	.0	.0	.0	.0	.1	.2	.0
8. EN mdblk	*	.0	2.3	.0	.7	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.1	.0	.0	.0	.2	.2	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.2	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.2	.0	.0	.0	.2	.1	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.5	.7	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.4	1.9	.0
17. SE blk	*	.0	.0	.0	.0	.3	.0	.0	.3	.0	.0	.0	.0
18. NW blk	*	.0	.1	.0	.0	.0	.7	1.3	.0	.0	.0	.0	.0
19. SW blk	*	.0	.1	.0	.0	.2	.0	.0	.6	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	1.5	.6	.0	.0	.0	.0	.0

TRINITY PARKWAY EXTENSION PHASE 2

AIR QUALITY CO HOT SPOT ANALYSIS

CALINE4 MODEL PRINTOUTS

FUTURE YEAR (2025) WITHOUT PROJECT SCENARIO

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Trinity NBA	4	-150	4	0	AG	1388	1.8	.0	10.0
B. Trinity NBD	4	0	4	150	AG	1897	1.5	.0	10.0
C. Trinity NBL	2	-150	0	0	AG	0	1.1	.0	10.0
D. Trinity SBA	-7	150	-7	0	AG	1101	1.7	.0	10.0
E. Trinity SBD	-7	0	-7	-150	AG	1161	1.1	.0	10.0
F. Trinity SBL	-5	150	0	0	AG	551	2.2	.0	10.0
G. McAuliff EBA	-150	0	0	0	AG	0	1.1	.0	10.0
H. McAuliff EBD	0	0	150	0	AG	661	2.1	.0	10.0
I. McAuliff EBL	-150	-2	0	0	AG	0	1.1	.0	10.0
J. McAuliff WBA	150	5	0	5	AG	619	2.2	.0	10.0
K. McAuliff WBD	0	5	-150	5	AG	0	1.1	.0	10.0
L. McAuliff WBL	150	5	0	0	AG	60	2.1	.0	10.0
M. Trinity NBAX	4	-750	4	-150	AG	1388	1.1	.0	10.0
N. Trinity NBDX	4	150	4	750	AG	1897	1.1	.0	10.0
O. Trinity SBAX	-7	750	-7	150	AG	1652	1.1	.0	10.0
P. Trinity SBDX	-7	-150	-7	-750	AG	1161	1.1	.0	10.0
Q. McAulif EBAX	-750	0	-150	0	AG	0	1.1	.0	10.0
R. McAulif EBDX	150	0	750	0	AG	661	1.1	.0	10.0
S. McAulif WBAX	750	5	150	5	AG	679	1.1	.0	10.0
T. McAulif WBDX	-150	5	-750	5	AG	0	1.1	.0	10.0

JOB: Trinity Parkway Extension
RUN: 2025nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	10	-7	1.8
2. NW	-14	12	1.8
3. SW	-14	-7	1.8
4. NE	10	12	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	12	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	12	1.8
9. SE mdblk	10	-150	1.8
10. NW mdblk	-14	150	1.8
11. SW mdblk	-14	-150	1.8
12. NE mdblk	10	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	12	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	12	1.8
17. SE blk	10	-600	1.8
18. NW blk	-14	600	1.8
19. SW blk	-14	-600	1.8
20. NE blk	10	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	351.	.8	.0	.3	.0	.0	.0	.1	.0	.0
2. NW	97.	.6	.0	.1	.0	.1	.0	.0	.0	.1
3. SW	8.	.5	.0	.1	.0	.2	.0	.0	.0	.0
4. NE	188.	.6	.3	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	282.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	92.	.2	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	87.	.2	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	259.	.4	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	354.	.5	.3	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	170.	.6	.0	.1	.0	.3	.0	.1	.0	.0
11. SW mdblk	7.	.4	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	188.	.6	.0	.4	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.2	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	88.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.2	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.4	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.4	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.4	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.4	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
17. SE blk	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.1	.3	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.3	.1	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Askland NBA	7	-150	7	0	AG	702	1.8	.0	10.0
B. Askland NBD	7	0	7	150	AG	1376	1.4	.0	10.0
C. Askland NBL	5	-150	0	0	AG	0	1.1	.0	10.0
D. Askland SBA	-11	150	-11	0	AG	510	1.7	.0	10.0
E. Askland SBD	-11	0	-11	-150	AG	520	1.2	.0	10.0
F. Askland SBL	-9	150	0	0	AG	641	2.2	.0	10.0
G. Otto Dri EBA	-150	-7	0	-7	AG	0	1.1	.0	10.0
H. Otto Dri EBD	0	-7	150	-7	AG	831	1.2	.0	10.0
I. Otto Dri EBL	-150	-5	0	0	AG	0	1.1	.0	10.0
J. Otto Dri WBA	150	9	0	9	AG	864	1.8	.0	13.5
K. Otto Dri WBD	0	9	-150	9	AG	0	1.1	.0	10.0
L. Otto Dri WBL	150	5	0	0	AG	10	2.1	.0	10.0
M. Askland NBAX	7	-750	7	-150	AG	702	1.1	.0	10.0
N. Askland NBDX	7	150	7	750	AG	1376	1.1	.0	10.0
O. Askland SBAX	-11	750	-11	150	AG	1151	1.1	.0	10.0
P. Askland SBDX	-11	-150	-11	-750	AG	520	1.1	.0	10.0
Q. Otto Dr EBAX	-750	-7	-150	-7	AG	0	1.1	.0	10.0
R. Otto Dr EBDX	150	-7	750	-7	AG	831	1.1	.0	10.0
S. Otto Dr WBAX	750	9	150	9	AG	874	1.1	.0	13.5
T. Otto Dr WBDX	-150	9	-750	9	AG	0	1.1	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	14	-14	1.8
2. NW	-17	15	1.8
3. SW	-17	-14	1.8
4. NE	14	17	1.8
5. ES mdblk	150	-14	1.8
6. WN mdblk	-150	15	1.8
7. WS mdblk	-150	-14	1.8
8. EN mdblk	150	17	1.8
9. SE mdblk	14	-150	1.8
10. NW mdblk	-17	150	1.8
11. SW mdblk	-17	-150	1.8
12. NE mdblk	14	150	1.8
13. ES blk	600	-14	1.8
14. WN blk	-600	15	1.8
15. WS blk	-600	-14	1.8
16. EN blk	600	17	1.8
17. SE blk	14	-600	1.8
18. NW blk	-17	600	1.8
19. SW blk	-17	-600	1.8
20. NE blk	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	350.	.5	.0	.2	.0	.0	.0	.0	.0	.0
2. NW	96.	.4	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	8.	.3	.0	.0	.0	.1	.0	.0	.0	.0
4. NE	350.	.4	.0	.3	.0	.0	.0	.0	.0	.0
5. ES mdblk	285.	.3	.0	.0	.0	.0	.0	.0	.0	.1
6. WN mdblk	92.	.2	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	85.	.1	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	258.	.3	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	355.	.3	.2	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	167.	.4	.0	.0	.0	.1	.0	.2	.0	.0
11. SW mdblk	7.	.3	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	189.	.4	.0	.3	.0	.0	.0	.0	.0	.0
13. ES blk	278.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	87.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.2	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.3	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0.	.0
8. EN mdblk	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
17. SE blk	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	350	2.1	.0	10.0
B. Mariners NBD	5	0	5	150	AG	160	1.3	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	51	2.1	.0	10.0
D. Mariners SBA	-5	150	-5	0	AG	80	1.9	.0	10.0
E. Mariners SBD	-5	0	-5	-150	AG	412	1.8	.0	10.0
F. Mariners SBL	-5	150	0	0	AG	10	2.1	.0	10.0
G. Otto Dri EBA	-150	-9	0	-9	AG	820	1.6	.0	13.5
H. Otto Dri EBD	0	-9	150	-9	AG	998	1.2	.0	11.8
I. Otto Dri EBL	-150	-5	0	0	AG	10	2.1	.0	10.0
J. Otto Dri WBA	150	7	0	7	AG	843	1.7	.0	10.0
K. Otto Dri WBD	0	7	-150	7	AG	894	1.2	.0	10.0
L. Otto Dri WBL	150	5	0	0	AG	300	2.2	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	401	1.1	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	160	1.1	.0	10.0
O. Mariner SBAX	-5	750	-5	150	AG	90	1.1	.0	10.0
P. Mariner SBDX	-5	-150	-5	-750	AG	412	1.1	.0	10.0
Q. Otto Dr EBAX	-750	-9	-150	-9	AG	830	1.1	.0	13.5
R. Otto Dr EBDX	150	-9	750	-9	AG	998	1.1	.0	11.8
S. Otto Dr WBAX	750	7	150	7	AG	1143	1.1	.0	10.0
T. Otto Dr WBDX	-150	7	-750	7	AG	894	1.1	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-16	1.8
2. NW	-12	14	1.8
3. SW	-12	-17	1.8
4. NE	12	14	1.8
5. ES mdblk	150	-16	1.8
6. WN mdblk	-150	14	1.8
7. WS mdblk	-150	-17	1.8
8. EN mdblk	150	14	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-12	150	1.8
11. SW mdblk	-12	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-16	1.8
14. WN blk	-600	14	1.8
15. WS blk	-600	-17	1.8
16. EN blk	600	14	1.8
17. SE blk	12	-600	1.8
18. NW blk	-12	600	1.8
19. SW blk	-12	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	277.	.4	.0	.0	.0	.0	.0	.0	.2	.0
2. NW	98.	.4	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	80.	.4	.0	.0	.0	.0	.0	.0	.0	.1
4. NE	98.	.4	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	278.	.3	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	97.	.3	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.3	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	261.	.4	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	351.	.2	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	175.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	10.	.2	.0	.0	.0	.0	.1	.0	.0	.0
12. NE mdblk	183.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	175.	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	183.	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	5	-150	5	0	*	AG	391	1.6	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	401	1.2	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	10	2.1	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	412	1.7	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	412	1.2	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	0	1.1	.0	10.0
G. Whitewat EBA	*	-150	0	0	0	*	AG	10	1.9	.0	10.0
H. Whitewat EBD	*	0	0	150	0	*	AG	0	1.1	.0	10.0
I. Whitewat EBL	*	-150	-2	0	0	*	AG	10	2.1	.0	10.0
J. Whitewat WBA	*	150	0	0	0	*	AG	0	1.1	.0	10.0
K. Whitewat WBD	*	0	0	-150	0	*	AG	20	1.3	.0	10.0
L. Whitewat WBL	*	150	2	0	0	*	AG	0	1.1	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	401	1.1	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	401	1.1	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	412	1.1	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	412	1.1	.0	10.0
Q. Whitewa EBAX	*	-750	0	-150	0	*	AG	20	1.1	.0	10.0
R. Whitewa EBDX	*	150	0	750	0	*	AG	0	1.1	.0	10.0
S. Whitewa WBAX	*	750	0	150	0	*	AG	0	1.1	.0	10.0
T. Whitewa WBDX	*	-150	0	-750	0	*	AG	20	1.1	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-7	1.8
2. NW	-8	7	1.8
3. SW	-8	-7	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2025nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.2	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	7.	.2	.0	.0	.0	.1	.0	.0	.0	.0
3. SW	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.2	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	98.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.2	.0	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	187.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	94.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	86.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	270.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	2	-150	2	0	AG	411	1.7	.0	10.0
B. Mariners NBD	2	0	2	150	AG	401	1.2	.0	10.0
C. Mariners NBL	2	-150	0	0	AG	0	1.1	.0	10.0
D. Mariners SBA	-5	150	-5	0	AG	402	1.7	.0	10.0
E. Mariners SBD	-5	0	-5	-150	AG	422	1.2	.0	10.0
F. Mariners SBL	-5	150	0	0	AG	10	2.1	.0	10.0
G. Blackswa EBA	-150	0	0	0	AG	0	1.2	.0	10.0
H. Blackswa EBD	0	0	150	0	AG	30	1.4	.0	10.0
I. Blackswa EBL	-150	-2	0	0	AG	0	1.2	.0	10.0
J. Blackswa WBA	150	0	0	0	AG	10	2.0	.0	10.0
K. Blackswa WBD	0	0	-150	0	AG	0	1.2	.0	10.0
L. Blackswa WBL	150	2	0	0	AG	20	2.1	.0	10.0
M. Mariner NBAX	2	-750	2	-150	AG	411	1.1	.0	10.0
N. Mariner NBDX	2	150	2	750	AG	401	1.1	.0	10.0
O. Mariner SBAX	-5	750	-5	150	AG	412	1.1	.0	10.0
P. Mariner SBDX	-5	-150	-5	-750	AG	422	1.1	.0	10.0
Q. Blacksw EBAX	-750	0	-150	0	AG	0	1.2	.0	10.0
R. Blacksw EBDX	150	0	750	0	AG	30	1.2	.0	10.0
S. Blacksw WBAX	750	0	150	0	AG	30	1.2	.0	10.0
T. Blacksw WBDX	-150	0	-750	0	AG	0	1.2	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	8	-7	1.8
2. NW	-12	7	1.8
3. SW	-12	-7	1.8
4. NE	8	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	8	-150	1.8
10. NW mdblk	-12	150	1.8
11. SW mdblk	-12	-150	1.8
12. NE mdblk	8	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	8	-600	1.8
18. NW blk	-12	600	1.8
19. SW blk	-12	-600	1.8
20. NE blk	8	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.2	.1	.0	.0	.0	.0	.0	.0	.0
2. NW	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.2	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	278.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	91.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	263.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.2	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.2	.0	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	274.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	90.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	266.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	401	1.7	.0	10.0
B. Mariners NBD	5	0	5	150	AG	411	1.2	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	90	2.1	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	422	1.7	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	452	1.2	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	0	1.1	.0	10.0
G. Sturgeon EBA	-150	0	0	0	AG	40	2.0	.0	10.0
H. Sturgeon EBD	0	0	150	0	AG	0	1.2	.0	10.0
I. Sturgeon EBL	-150	-2	0	0	AG	10	2.1	.0	10.0
J. Sturgeon WBA	150	0	0	0	AG	0	1.2	.0	10.0
K. Sturgeon WBD	0	0	-150	0	AG	100	1.4	.0	10.0
L. Sturgeon WBL	150	2	0	0	AG	0	1.2	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	491	1.1	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	411	1.1	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	422	1.1	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	452	1.1	.0	10.0
Q. Sturgeo EBAX	-750	0	-150	0	AG	50	1.2	.0	10.0
R. Sturgeo EBDX	150	0	750	0	AG	0	1.2	.0	10.0
S. Sturgeo WBAX	750	0	150	0	AG	0	1.2	.0	10.0
T. Sturgeo WBDX	-150	0	-750	0	AG	100	1.2	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	12	-7	1.8
2. NW	*	-8	7	1.8
3. SW	*	-8	-7	1.8
4. NE	*	12	7	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	7	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	7	1.8
9. SE mdblk	*	12	-150	1.8
10. NW mdblk	*	-8	150	1.8
11. SW mdblk	*	-8	-150	1.8
12. NE mdblk	*	12	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	7	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	7	1.8
17. SE blk	*	12	-600	1.8
18. NW blk	*	-8	600	1.8
19. SW blk	*	-8	-600	1.8
20. NE blk	*	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.2	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	172.	.2	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	172.	.2	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.2	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	99.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.2	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	174.	.2	.0	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	85.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	268.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	7	-150	7	0	AG	190	1.9	.0	10.0
B. Mariners NBD	7	0	7	150	AG	511	2.1	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	10	2.1	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	20	1.9	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	220	1.3	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	332	2.2	.0	10.0
G. Hammer L EBA	-150	-7	0	-7	AG	550	1.6	.0	10.0
H. Hammer L EBD	0	-7	150	-7	AG	1022	1.2	.0	10.0
I. Hammer L EBL	-150	-5	0	0	AG	10	2.1	.0	10.0
J. Hammer L WBA	150	12	0	12	AG	1393	1.7	.0	13.5
K. Hammer L WBD	0	12	-150	12	AG	952	1.2	.0	11.8
L. Hammer L WBL	150	9	0	0	AG	200	2.1	.0	10.0
M. Mariner NBAX	7	-750	7	-150	AG	200	1.1	.0	10.0
N. Mariner NBDX	7	150	7	750	AG	511	1.1	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	352	1.1	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	220	1.1	.0	10.0
Q. Hammer EBAX	-750	-7	-150	-7	AG	560	1.1	.0	10.0
R. Hammer EBDX	150	-7	750	-7	AG	1022	1.1	.0	10.0
S. Hammer WBAX	750	12	150	12	AG	1593	1.1	.0	13.5
T. Hammer WBDX	-150	12	-750	12	AG	952	1.1	.0	11.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2025nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	14	-14	1.8
2. NW	-8	20	1.8
3. SW	-8	-14	1.8
4. NE	14	21	1.8
5. ES mdblk	150	-14	1.8
6. WN mdblk	-150	20	1.8
7. WS mdblk	-150	-14	1.8
8. EN mdblk	150	21	1.8
9. SE mdblk	14	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	14	150	1.8
13. ES blk	600	-14	1.8
14. WN blk	-600	20	1.8
15. WS blk	-600	-14	1.8
16. EN blk	600	21	1.8
17. SE blk	14	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	353.	.4	.0	.1	.0	.0	.0	.0	.0	.0
2. NW	97.	.5	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	80.	.4	.0	.0	.0	.0	.0	.0	.0	.2
4. NE	98.	.4	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	281.	.3	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	96.	.3	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.3	.0	.0	.0	.0	.0	.0	.1	.0
8. EN mdblk	261.	.4	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	357.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	170.	.3	.0	.0	.0	.0	.0	.1	.0	.0
11. SW mdblk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	188.	.3	.0	.2	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.2	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	357.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

TRINITY PARKWAY EXTENSION PHASE 2

AIR QUALITY CO HOT SPOT ANALYSIS

CALINE4 MODEL PRINTOUTS

FUTURE YEAR (2025) WITH PROJECT SCENARIO

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Trinity NBA	4	-150	4	0	AG	1482	1.9	.0	10.0
B. Trinity NBD	4	0	4	150	AG	1991	1.5	.0	10.0
C. Trinity NBL	2	-150	0	0	AG	0	1.1	.0	10.0
D. Trinity SBA	-7	150	-7	0	AG	1267	1.8	.0	10.0
E. Trinity SBD	-7	0	-7	-150	AG	1327	1.2	.0	10.0
F. Trinity SBL	-5	150	0	0	AG	551	2.2	.0	10.0
G. McAuliff EBA	-150	0	0	0	AG	0	1.1	.0	10.0
H. McAuliff EBD	0	0	150	0	AG	661	2.1	.0	10.0
I. McAuliff EBL	-150	-2	0	0	AG	0	1.1	.0	10.0
J. McAuliff WBA	150	5	0	5	AG	619	2.2	.0	10.0
K. McAuliff WBD	0	5	-150	5	AG	0	1.1	.0	10.0
L. McAuliff WBL	150	5	0	0	AG	60	2.1	.0	10.0
M. Trinity NBAX	4	-750	4	-150	AG	1482	1.1	.0	10.0
N. Trinity NBDX	4	150	4	750	AG	1991	1.1	.0	10.0
O. Trinity SBAX	-7	750	-7	150	AG	1818	1.1	.0	10.0
P. Trinity SBDX	-7	-150	-7	-750	AG	1327	1.1	.0	10.0
Q. McAulif EBAX	-750	0	-150	0	AG	0	1.1	.0	10.0
R. McAulif EBDX	150	0	750	0	AG	661	1.1	.0	10.0
S. McAulif WBAX	750	5	150	5	AG	679	1.1	.0	10.0
T. McAulif WBDX	-150	5	-750	5	AG	0	1.1	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	10	-7	1.8
2. NW	-14	12	1.8
3. SW	-14	-7	1.8
4. NE	10	12	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	12	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	12	1.8
9. SE mdblk	10	-150	1.8
10. NW mdblk	-14	150	1.8
11. SW mdblk	-14	-150	1.8
12. NE mdblk	10	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	12	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	12	1.8
17. SE blk	10	-600	1.8
18. NW blk	-14	600	1.8
19. SW blk	-14	-600	1.8
20. NE blk	10	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	351.	.8	.0	.3	.0	.1	.0	.1	.0	.0
2. NW	97.	.6	.0	.1	.0	.1	.0	.0	.0	.1
3. SW	8.	.6	.0	.1	.0	.3	.0	.0	.0	.0
4. NE	188.	.7	.3	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	282.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	92.	.2	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	87.	.2	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	259.	.4	.0	.0	.0	.0	.0	.0	.0	.1
9. SE mdblk	353.	.6	.4	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	170.	.7	.0	.1	.0	.3	.0	.1	.0	.0
11. SW mdblk	7.	.5	.1	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	188.	.7	.0	.4	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	88.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.2	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.4	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.5	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.4	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.5	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0
17. SE blk	*	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.1	.3	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.1	.0	.0	.2	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.3	.1	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		LINK COORDINATES (M)									
A. Askland NBA	*	7	-150	7	0	*	AG	702	1.8	.0	10.0
B. Askland NBD	*	7	0	7	150	*	AG	1473	1.6	.0	10.0
C. Askland NBL	*	5	-150	0	0	*	AG	144	2.1	.0	10.0
D. Askland SBA	*	-11	150	-11	0	*	AG	676	1.8	.0	10.0
E. Askland SBD	*	-11	0	-11	-150	*	AG	604	1.2	.0	10.0
F. Askland SBL	*	-9	150	0	0	*	AG	641	2.2	.0	10.0
G. Otto Dri EBA	*	-150	-7	0	-7	*	AG	413	1.7	.0	10.0
H. Otto Dri EBD	*	0	-7	150	-7	*	AG	1160	1.3	.0	10.0
I. Otto Dri EBL	*	-150	-5	0	0	*	AG	97	2.1	.0	10.0
J. Otto Dri WBA	*	150	9	0	9	*	AG	1428	2.1	.0	13.5
K. Otto Dri WBD	*	0	9	-150	9	*	AG	874	1.2	.0	10.0
L. Otto Dri WBL	*	150	5	0	0	*	AG	10	2.1	.0	10.0
M. Askland NBAX	*	7	-750	7	-150	*	AG	846	1.1	.0	10.0
N. Askland NBDX	*	7	150	7	750	*	AG	1473	1.1	.0	10.0
O. Askland SBAX	*	-11	750	-11	150	*	AG	1317	1.1	.0	10.0
P. Askland SBDX	*	-11	-150	-11	-750	*	AG	604	1.1	.0	10.0
Q. Otto Dr EBAX	*	-750	-7	-150	-7	*	AG	510	1.1	.0	10.0
R. Otto Dr EBDX	*	150	-7	750	-7	*	AG	1160	1.1	.0	10.0
S. Otto Dr WBAX	*	750	9	150	9	*	AG	1438	1.1	.0	13.5
T. Otto Dr WBDX	*	-150	9	-750	9	*	AG	874	1.1	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2025wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	14	-14	1.8
2. NW	-17	15	1.8
3. SW	-17	-14	1.8
4. NE	14	17	1.8
5. ES mdblk	150	-14	1.8
6. WN mdblk	-150	15	1.8
7. WS mdblk	-150	-14	1.8
8. EN mdblk	150	17	1.8
9. SE mdblk	14	-150	1.8
10. NW mdblk	-17	150	1.8
11. SW mdblk	-17	-150	1.8
12. NE mdblk	14	150	1.8
13. ES blk	600	-14	1.8
14. WN blk	-600	15	1.8
15. WS blk	-600	-14	1.8
16. EN blk	600	17	1.8
17. SE blk	14	-600	1.8
18. NW blk	-17	600	1.8
19. SW blk	-17	-600	1.8
20. NE blk	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	351.	.7	.0	.2	.0	.0	.0	.0	.0	.0
2. NW	97.	.7	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	8.	.5	.0	.0	.0	.1	.0	.0	.0	.0
4. NE	189.	.5	.1	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	283.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	95.	.4	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.3	.0	.0	.0	.0	.0	.0	.1	.0
8. EN mdblk	261.	.5	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	354.	.4	.2	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	168.	.5	.0	.0	.0	.2	.0	.2	.0	.0
11. SW mdblk	7.	.3	.0	.0	.0	.0	.1	.0	.0	.0
12. NE mdblk	189.	.5	.0	.3	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.4	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	84.	.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.4	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.4	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
		CONC/LINK (PPM)											
1. SE	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0
17. SE blk	*	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	350	2.1	.0	10.0
B. Mariners NBD	5	0	5	150	AG	160	1.3	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	116	2.1	.0	10.0
D. Mariners SBA	-5	150	-5	0	AG	80	1.9	.0	10.0
E. Mariners SBD	-5	0	-5	-150	AG	450	1.8	.0	10.0
F. Mariners SBL	-5	150	0	0	AG	10	2.1	.0	10.0
G. Otto Dri EBA	-150	-9	0	-9	AG	1149	1.6	.0	13.5
H. Otto Dri EBD	0	-9	150	-9	AG	1289	1.2	.0	11.8
I. Otto Dri EBL	-150	-5	0	0	AG	10	2.1	.0	10.0
J. Otto Dri WBA	150	7	0	7	AG	1341	1.8	.0	10.0
K. Otto Dri WBD	0	7	-150	7	AG	1457	1.3	.0	10.0
L. Otto Dri WBL	150	5	0	0	AG	300	2.2	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	466	1.1	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	160	1.1	.0	10.0
O. Mariner SBAX	-5	750	-5	150	AG	90	1.1	.0	10.0
P. Mariner SBDX	-5	-150	-5	-750	AG	450	1.1	.0	10.0
Q. Otto Dr EBAX	-750	-9	-150	-9	AG	1159	1.1	.0	13.5
R. Otto Dr EBDX	150	-9	750	-9	AG	1289	1.1	.0	11.8
S. Otto Dr WBAX	750	7	150	7	AG	1641	1.1	.0	10.0
T. Otto Dr WBDX	-150	7	-750	7	AG	1457	1.1	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	12	-16	1.8
2. NW	*	-12	14	1.8
3. SW	*	-12	-17	1.8
4. NE	*	12	14	1.8
5. ES mdblk	*	150	-16	1.8
6. WN mdblk	*	-150	14	1.8
7. WS mdblk	*	-150	-17	1.8
8. EN mdblk	*	150	14	1.8
9. SE mdblk	*	12	-150	1.8
10. NW mdblk	*	-12	150	1.8
11. SW mdblk	*	-12	-150	1.8
12. NE mdblk	*	12	150	1.8
13. ES blk	*	600	-16	1.8
14. WN blk	*	-600	14	1.8
15. WS blk	*	-600	-17	1.8
16. EN blk	*	600	14	1.8
17. SE blk	*	12	-600	1.8
18. NW blk	*	-12	600	1.8
19. SW blk	*	-12	-600	1.8
20. NE blk	*	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	.5	.0	.0	.0	.0	.0	.0	.2	.0
2. NW	98.	.5	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	80.	.5	.0	.0	.0	.0	.0	.0	.0	.2
4. NE	98.	.5	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	278.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	97.	.4	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.4	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	261.	.6	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	350.	.3	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	175.	.2	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	11.	.3	.0	.0	.0	.0	.1	.0	.0	.0
12. NE mdblk	183.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.4	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	175.	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	183.	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM)											
	*	I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	5	-150	5	0	*	AG	456	1.7	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	466	1.2	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	10	2.1	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	450	1.7	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	450	1.2	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	0	1.1	.0	10.0
G. Whitewat EBA	*	-150	0	0	0	*	AG	10	1.9	.0	10.0
H. Whitewat EBD	*	0	0	150	0	*	AG	0	1.1	.0	10.0
I. Whitewat EBL	*	-150	-2	0	0	*	AG	10	2.1	.0	10.0
J. Whitewat WBA	*	150	0	0	0	*	AG	0	1.1	.0	10.0
K. Whitewat WBD	*	0	0	-150	0	*	AG	20	1.3	.0	10.0
L. Whitewat WBL	*	150	2	0	0	*	AG	0	1.1	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	466	1.1	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	466	1.1	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	450	1.1	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	450	1.1	.0	10.0
Q. Whitewa EBAX	*	-750	0	-150	0	*	AG	20	1.1	.0	10.0
R. Whitewa EBDX	*	150	0	750	0	*	AG	0	1.1	.0	10.0
S. Whitewa WBAX	*	750	0	150	0	*	AG	0	1.1	.0	10.0
T. Whitewa WBDX	*	-150	0	-750	0	*	AG	20	1.1	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-7	1.8
2. NW	-8	7	1.8
3. SW	-8	-7	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.2	.1	.0	.0	.0	.0	.0	.0	.0
2. NW	7.	.2	.0	.0	.0	.1	.0	.0	.0	.0
3. SW	7.	.2	.0	.0	.0	.1	.0	.0	.0	.0
4. NE	187.	.2	.1	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	98.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.2	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.2	.0	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	187.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	270.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	94.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	87.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*						CONC/LINK (PPM)						
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	2	-150	2	0	AG	476	1.7	.0	10.0
B. Mariners NBD	2	0	2	150	AG	466	1.2	.0	10.0
C. Mariners NBL	2	-150	0	0	AG	0	1.1	.0	10.0
D. Mariners SBA	-5	150	-5	0	AG	440	1.7	.0	10.0
E. Mariners SBD	-5	0	-5	-150	AG	460	1.2	.0	10.0
F. Mariners SBL	-5	150	0	0	AG	10	2.1	.0	10.0
G. Blackswa EBA	-150	0	0	0	AG	0	1.2	.0	10.0
H. Blackswa EBD	0	0	150	0	AG	30	1.4	.0	10.0
I. Blackswa EBL	-150	-2	0	0	AG	0	1.2	.0	10.0
J. Blackswa WBA	150	0	0	0	AG	10	2.0	.0	10.0
K. Blackswa WBD	0	0	-150	0	AG	0	1.2	.0	10.0
L. Blackswa WBL	150	2	0	0	AG	20	2.1	.0	10.0
M. Mariner NBAX	2	-750	2	-150	AG	476	1.1	.0	10.0
N. Mariner NBDX	2	150	2	750	AG	466	1.1	.0	10.0
O. Mariner SBAX	-5	750	-5	150	AG	450	1.1	.0	10.0
P. Mariner SBDX	-5	-150	-5	-750	AG	460	1.1	.0	10.0
Q. Blacksw EBAX	-750	0	-150	0	AG	0	1.2	.0	10.0
R. Blacksw EBDX	150	0	750	0	AG	30	1.2	.0	10.0
S. Blacksw WBAX	750	0	150	0	AG	30	1.2	.0	10.0
T. Blacksw WBDX	-150	0	-750	0	AG	0	1.2	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	8	-7	1.8
2. NW	-12	7	1.8
3. SW	-12	-7	1.8
4. NE	8	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	8	-150	1.8
10. NW mdblk	-12	150	1.8
11. SW mdblk	-12	-150	1.8
12. NE mdblk	8	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	8	-600	1.8
18. NW blk	-12	600	1.8
19. SW blk	-12	-600	1.8
20. NE blk	8	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.2	.1	.0	.0	.0	.0	.0	.0	.0
2. NW	7.	.2	.0	.0	.0	.1	.0	.0	.0	.0
3. SW	7.	.2	.0	.0	.0	.1	.0	.0	.0	.0
4. NE	187.	.2	.1	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	278.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	91.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	263.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.2	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.2	.0	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	187.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	274.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	90.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	266.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2025wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
		CONC/LINK (PPM)											
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	466	1.7	.0	10.0
B. Mariners NBD	5	0	5	150	AG	476	1.2	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	90	2.1	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	460	1.7	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	490	1.2	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	0	1.1	.0	10.0
G. Sturgeon EBA	-150	0	0	0	AG	40	2.0	.0	10.0
H. Sturgeon EBD	0	0	150	0	AG	0	1.2	.0	10.0
I. Sturgeon EBL	-150	-2	0	0	AG	10	2.1	.0	10.0
J. Sturgeon WBA	150	0	0	0	AG	0	1.2	.0	10.0
K. Sturgeon WBD	0	0	-150	0	AG	100	1.4	.0	10.0
L. Sturgeon WBL	150	2	0	0	AG	0	1.2	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	556	1.1	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	476	1.1	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	460	1.1	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	490	1.1	.0	10.0
Q. Sturgeo EBAX	-750	0	-150	0	AG	50	1.2	.0	10.0
R. Sturgeo EBDX	150	0	750	0	AG	0	1.2	.0	10.0
S. Sturgeo WBAX	750	0	150	0	AG	0	1.2	.0	10.0
T. Sturgeo WBDX	-150	0	-750	0	AG	100	1.2	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2025wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	12	-7	1.8
2. NW	*	-8	7	1.8
3. SW	*	-8	-7	1.8
4. NE	*	12	7	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	7	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	7	1.8
9. SE mdblk	*	12	-150	1.8
10. NW mdblk	*	-8	150	1.8
11. SW mdblk	*	-8	-150	1.8
12. NE mdblk	*	12	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	7	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	7	1.8
17. SE blk	*	12	-600	1.8
18. NW blk	*	-8	600	1.8
19. SW blk	*	-8	-600	1.8
20. NE blk	*	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.2	.1	.0	.0	.0	.0	.0	.0	.0
2. NW	172.	.2	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	172.	.2	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.2	.1	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	99.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.2	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	174.	.2	.0	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	85.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	268.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

JOB: Trinity Parkway Extension
RUN: 2025wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2025wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		LINK COORDINATES (M)									
A. Mariners NBA	*	7	-150	7	0	*	AG	190	1.9	.0	10.0
B. Mariners NBD	*	7	0	7	150	*	AG	576	2.1	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	10	2.1	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	20	1.9	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	220	1.3	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	370	2.2	.0	10.0
G. Hammer L EBA	*	-150	-7	0	-7	*	AG	609	1.6	.0	10.0
H. Hammer L EBD	*	0	-7	150	-7	*	AG	1119	1.2	.0	10.0
I. Hammer L EBL	*	-150	-5	0	0	*	AG	10	2.1	.0	10.0
J. Hammer L WBA	*	150	12	0	12	*	AG	1558	1.7	.0	13.5
K. Hammer L WBD	*	0	12	-150	12	*	AG	1052	1.2	.0	11.8
L. Hammer L WBL	*	150	9	0	0	*	AG	200	2.1	.0	10.0
M. Mariner NBAX	*	7	-750	7	-150	*	AG	200	1.1	.0	10.0
N. Mariner NBDX	*	7	150	7	750	*	AG	576	1.1	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	390	1.1	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	220	1.1	.0	10.0
Q. Hammer EBAX	*	-750	-7	-150	-7	*	AG	619	1.1	.0	10.0
R. Hammer EBDX	*	150	-7	750	-7	*	AG	1119	1.1	.0	10.0
S. Hammer WBAX	*	750	12	150	12	*	AG	1758	1.1	.0	13.5
T. Hammer WBDX	*	-150	12	-750	12	*	AG	1052	1.1	.0	11.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2025wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	14	-14	1.8
2. NW	-8	20	1.8
3. SW	-8	-14	1.8
4. NE	14	21	1.8
5. ES mdblk	150	-14	1.8
6. WN mdblk	-150	20	1.8
7. WS mdblk	-150	-14	1.8
8. EN mdblk	150	21	1.8
9. SE mdblk	14	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	14	150	1.8
13. ES blk	600	-14	1.8
14. WN blk	-600	20	1.8
15. WS blk	-600	-14	1.8
16. EN blk	600	21	1.8
17. SE blk	14	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2025wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	353.	.4	.0	.1	.0	.0	.0	.0	.0	.0
2. NW	97.	.6	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	80.	.4	.0	.0	.0	.0	.0	.0	.0	.2
4. NE	99.	.5	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	281.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	96.	.3	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	83.	.3	.0	.0	.0	.0	.0	.0	.1	.0
8. EN mdblk	261.	.5	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	357.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	170.	.3	.0	.0	.0	.0	.0	.1	.0	.0
11. SW mdblk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	188.	.3	.0	.2	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	357.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2025wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*	CONC/LINK (PPM)											
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0

TRINITY PARKWAY EXTENSION PHASE 2

AIR QUALITY CO HOT SPOT ANALYSIS

CALINE4 MODEL PRINTOUTS

FUTURE YEAR (2035) WITHOUT PROJECT SCENARIO

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Trinity NBA	4	-150	4	0	AG	1457	1.4	.0	10.0
B. Trinity NBD	4	0	4	150	AG	1724	1.0	.0	10.0
C. Trinity NBL	2	-150	0	0	AG	0	.8	.0	10.0
D. Trinity SBA	-7	150	-7	0	AG	1373	1.3	.0	10.0
E. Trinity SBD	-7	0	-7	-150	AG	1453	.9	.0	10.0
F. Trinity SBL	-5	150	0	0	AG	283	1.5	.0	10.0
G. McAuliff EBA	-150	0	0	0	AG	0	.8	.0	10.0
H. McAuliff EBD	0	0	150	0	AG	383	1.0	.0	10.0
I. McAuliff EBL	-150	-2	0	0	AG	0	.8	.0	10.0
J. McAuliff WBA	150	5	0	5	AG	367	1.5	.0	10.0
K. McAuliff WBD	0	5	-150	5	AG	0	.8	.0	10.0
L. McAuliff WBL	150	5	0	0	AG	80	1.5	.0	10.0
M. Trinity NBAX	4	-750	4	-150	AG	1457	.8	.0	10.0
N. Trinity NBDX	4	150	4	750	AG	1724	.8	.0	10.0
O. Trinity SBAX	-7	750	-7	150	AG	1656	.8	.0	10.0
P. Trinity SBDX	-7	-150	-7	-750	AG	1453	.8	.0	10.0
Q. McAulif EBAX	-750	0	-150	0	AG	0	.8	.0	10.0
R. McAulif EBDX	150	0	750	0	AG	383	.8	.0	10.0
S. McAulif WBAX	750	5	150	5	AG	447	.8	.0	10.0
T. McAulif WBDX	-150	5	-750	5	AG	0	.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2035nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	10	-7	1.8
2. NW	*	-14	12	1.8
3. SW	*	-14	-7	1.8
4. NE	*	10	12	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	12	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	12	1.8
9. SE mdblk	*	10	-150	1.8
10. NW mdblk	*	-14	150	1.8
11. SW mdblk	*	-14	-150	1.8
12. NE mdblk	*	10	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	12	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	12	1.8
17. SE blk	*	10	-600	1.8
18. NW blk	*	-14	600	1.8
19. SW blk	*	-14	-600	1.8
20. NE blk	*	10	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	351.	.5	.0	.2	.0	.0	.0	.0	.0	.0
2. NW	9.	.4	.0	.0	.0	.2	.0	.0	.0	.0
3. SW	8.	.4	.0	.0	.0	.2	.0	.0	.0	.0
4. NE	188.	.4	.2	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	282.	.2	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	92.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	87.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	260.	.2	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.4	.3	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	171.	.4	.0	.0	.0	.2	.0	.0	.0	.0
11. SW mdblk	8.	.4	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	188.	.4	.0	.2	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.1	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	90.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	88.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.1	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.3	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.3	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.3	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035nP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

	CONC/LINK (PPM)											
RECEPTOR	I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Askland NBA	12	-150	12	0	AG	682	1.3	.0	13.5
B. Askland NBD	12	0	12	150	AG	1446	1.1	.0	10.0
C. Askland NBL	9	-150	0	0	AG	161	1.5	.0	10.0
D. Askland SBA	-12	150	-12	0	AG	671	1.3	.0	13.5
E. Askland SBD	-12	0	-12	-150	AG	827	.9	.0	10.0
F. Askland SBL	-9	150	0	0	AG	673	1.5	.0	10.0
G. Otto Dri EBA	-150	-9	0	-9	AG	620	1.3	.0	13.5
H. Otto Dri EBD	0	-9	150	-9	AG	1400	1.0	.0	10.0
I. Otto Dri EBL	-150	-5	0	0	AG	133	1.5	.0	10.0
J. Otto Dri WBA	150	9	0	9	AG	2022	1.5	.0	13.5
K. Otto Dri WBD	0	9	-150	9	AG	1509	1.1	.0	10.0
L. Otto Dri WBL	150	5	0	0	AG	220	1.5	.0	10.0
M. Askland NBAX	12	-750	12	-150	AG	843	.8	.0	13.5
N. Askland NBDX	12	150	12	750	AG	1446	.8	.0	10.0
O. Askland SBAX	-12	750	-12	150	AG	1344	.8	.0	13.5
P. Askland SBDX	-12	-150	-12	-750	AG	827	.8	.0	10.0
Q. Otto Dr EBAX	-750	-9	-150	-9	AG	753	.8	.0	13.5
R. Otto Dr EBDX	150	-9	750	-9	AG	1400	.8	.0	10.0
S. Otto Dr WBAX	750	9	150	9	AG	2242	.8	.0	13.5
T. Otto Dr WBDX	-150	9	-750	9	AG	1509	.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	21	-15	1.8
2. NW	*	-21	15	1.8
3. SW	*	-19	-17	1.8
4. NE	*	19	17	1.8
5. ES mdblk	*	150	-15	1.8
6. WN mdblk	*	-150	15	1.8
7. WS mdblk	*	-150	-17	1.8
8. EN mdblk	*	150	17	1.8
9. SE mdblk	*	21	-150	1.8
10. NW mdblk	*	-21	150	1.8
11. SW mdblk	*	-19	-150	1.8
12. NE mdblk	*	19	150	1.8
13. ES blk	*	600	-15	1.8
14. WN blk	*	-600	15	1.8
15. WS blk	*	-600	-17	1.8
16. EN blk	*	600	17	1.8
17. SE blk	*	21	-600	1.8
18. NW blk	*	-21	600	1.8
19. SW blk	*	-19	-600	1.8
20. NE blk	*	19	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	349.	.5	.0	.1	.0	.0	.0	.0	.0	.0
2. NW	97.	.6	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	79.	.4	.0	.0	.0	.0	.0	.0	.0	.1
4. NE	257.	.5	.0	.1	.0	.0	.0	.0	.0	.0
5. ES mdblk	281.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	96.	.4	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.3	.0	.0	.0	.0	.0	.0	.1	.0
8. EN mdblk	261.	.5	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.3	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	167.	.3	.0	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	8.	.3	.0	.0	.0	.0	.1	.0	.0	.0
12. NE mdblk	189.	.4	.0	.2	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	96.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.2	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.3	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.3	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035nP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		LINK COORDINATES (M)									
A. Mariners NBA	*	5	-150	5	0	*	AG	190	1.4	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	100	.9	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	168	1.5	.0	10.0
D. Mariners SBA	*	-5	150	-5	0	*	AG	30	1.4	.0	10.0
E. Mariners SBD	*	-5	0	-5	-150	*	AG	470	1.3	.0	10.0
F. Mariners SBL	*	-5	150	0	0	*	AG	30	1.5	.0	10.0
G. Otto Dri EBA	*	-150	-9	0	-9	*	AG	1380	1.2	.0	13.5
H. Otto Dri EBD	*	0	-9	150	-9	*	AG	1470	.9	.0	11.8
I. Otto Dri EBL	*	-150	-5	0	0	*	AG	20	1.5	.0	10.0
J. Otto Dri WBA	*	150	7	0	7	*	AG	2133	1.5	.0	10.0
K. Otto Dri WBD	*	0	7	-150	7	*	AG	2241	1.1	.0	10.0
L. Otto Dri WBL	*	150	5	0	0	*	AG	330	1.5	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	358	.8	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	100	.8	.0	10.0
O. Mariner SBAX	*	-5	750	-5	150	*	AG	60	.8	.0	10.0
P. Mariner SBDX	*	-5	-150	-5	-750	*	AG	470	.8	.0	10.0
Q. Otto Dr EBAX	*	-750	-9	-150	-9	*	AG	1400	.8	.0	13.5
R. Otto Dr EBDX	*	150	-9	750	-9	*	AG	1470	.8	.0	11.8
S. Otto Dr WBAX	*	750	7	150	7	*	AG	2463	.8	.0	10.0
T. Otto Dr WBDX	*	-150	7	-750	7	*	AG	2241	.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	12	-16	1.8
2. NW	*	-12	14	1.8
3. SW	*	-12	-17	1.8
4. NE	*	12	14	1.8
5. ES mdblk	*	150	-16	1.8
6. WN mdblk	*	-150	14	1.8
7. WS mdblk	*	-150	-17	1.8
8. EN mdblk	*	150	14	1.8
9. SE mdblk	*	12	-150	1.8
10. NW mdblk	*	-12	150	1.8
11. SW mdblk	*	-12	-150	1.8
12. NE mdblk	*	12	150	1.8
13. ES blk	*	600	-16	1.8
14. WN blk	*	-600	14	1.8
15. WS blk	*	-600	-17	1.8
16. EN blk	*	600	14	1.8
17. SE blk	*	12	-600	1.8
18. NW blk	*	-12	600	1.8
19. SW blk	*	-12	-600	1.8
20. NE blk	*	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	.4	.0	.0	.0	.0	.0	.0	.2	.0
2. NW	98.	.5	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	77.	.4	.0	.0	.0	.0	.0	.0	.0	.1
4. NE	99.	.5	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	279.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	98.	.5	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.4	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	261.	.6	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	350.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	175.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	10.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	183.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	175.	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	183.	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035nP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	348	1.2	.0	10.0
B. Mariners NBD	5	0	5	150	AG	358	.9	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	10	1.5	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	470	1.2	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	470	.9	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	0	.8	.0	10.0
G. Whitewat EBA	-150	0	0	0	AG	10	1.4	.0	10.0
H. Whitewat EBD	0	0	150	0	AG	0	.8	.0	10.0
I. Whitewat EBL	-150	-2	0	0	AG	10	1.5	.0	10.0
J. Whitewat WBA	150	0	0	0	AG	0	.8	.0	10.0
K. Whitewat WBD	0	0	-150	0	AG	20	.9	.0	10.0
L. Whitewat WBL	150	2	0	0	AG	0	.8	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	358	.8	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	358	.8	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	470	.8	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	470	.8	.0	10.0
Q. Whitewa EBAX	-750	0	-150	0	AG	20	.8	.0	10.0
R. Whitewa EBDX	150	0	750	0	AG	0	.8	.0	10.0
S. Whitewa WBAX	750	0	150	0	AG	0	.8	.0	10.0
T. Whitewa WBDX	-150	0	-750	0	AG	20	.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	12	-7	1.8
2. NW	*	-8	7	1.8
3. SW	*	-8	-7	1.8
4. NE	*	12	7	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	7	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	7	1.8
9. SE mdblk	*	12	-150	1.8
10. NW mdblk	*	-8	150	1.8
11. SW mdblk	*	-8	-150	1.8
12. NE mdblk	*	12	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	7	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	7	1.8
17. SE blk	*	12	-600	1.8
18. NW blk	*	-8	600	1.8
19. SW blk	*	-8	-600	1.8
20. NE blk	*	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	98.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	94.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	86.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	270.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035nP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*						CONC/LINK (PPM)						
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	2	-150	2	0	*	AG	368	1.2	.0	10.0
B. Mariners NBD	*	2	0	2	150	*	AG	358	.9	.0	10.0
C. Mariners NBL	*	2	-150	0	0	*	AG	0	.8	.0	10.0
D. Mariners SBA	*	-5	150	-5	0	*	AG	460	1.2	.0	10.0
E. Mariners SBD	*	-5	0	-5	-150	*	AG	480	.9	.0	10.0
F. Mariners SBL	*	-5	150	0	0	*	AG	10	1.5	.0	10.0
G. Blackswa EBA	*	-150	0	0	0	*	AG	0	.9	.0	10.0
H. Blackswa EBD	*	0	0	150	0	*	AG	30	1.0	.0	10.0
I. Blackswa EBL	*	-150	-2	0	0	*	AG	0	.9	.0	10.0
J. Blackswa WBA	*	150	0	0	0	*	AG	10	1.4	.0	10.0
K. Blackswa WBD	*	0	0	-150	0	*	AG	0	.9	.0	10.0
L. Blackswa WBL	*	150	2	0	0	*	AG	20	1.5	.0	10.0
M. Mariner NBAX	*	2	-750	2	-150	*	AG	368	.8	.0	10.0
N. Mariner NBDX	*	2	150	2	750	*	AG	358	.8	.0	10.0
O. Mariner SBAX	*	-5	750	-5	150	*	AG	470	.8	.0	10.0
P. Mariner SBDX	*	-5	-150	-5	-750	*	AG	480	.8	.0	10.0
Q. Blacksw EBAX	*	-750	0	-150	0	*	AG	0	.9	.0	10.0
R. Blacksw EBDX	*	150	0	750	0	*	AG	30	.9	.0	10.0
S. Blacksw WBAX	*	750	0	150	0	*	AG	30	.9	.0	10.0
T. Blacksw WBDX	*	-150	0	-750	0	*	AG	0	.9	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	8	-7	1.8
2. NW	*	-12	7	1.8
3. SW	*	-12	-7	1.8
4. NE	*	8	7	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	7	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	7	1.8
9. SE mdblk	*	8	-150	1.8
10. NW mdblk	*	-12	150	1.8
11. SW mdblk	*	-12	-150	1.8
12. NE mdblk	*	8	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	7	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	7	1.8
17. SE blk	*	8	-600	1.8
18. NW blk	*	-12	600	1.8
19. SW blk	*	-12	-600	1.8
20. NE blk	*	8	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	353.	.1	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	278.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	91.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	263.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	274.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	90.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	266.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035nP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
		LINK COORDINATES (M)									
A. Mariners NBA	*	5	-150	5	0	*	AG	358	1.2	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	368	.9	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	90	1.5	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	480	1.2	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	510	.9	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	0	.8	.0	10.0
G. Sturgeon EBA	*	-150	0	0	0	*	AG	40	1.4	.0	10.0
H. Sturgeon EBD	*	0	0	150	0	*	AG	0	.9	.0	10.0
I. Sturgeon EBL	*	-150	-2	0	0	*	AG	10	1.5	.0	10.0
J. Sturgeon WBA	*	150	0	0	0	*	AG	0	.9	.0	10.0
K. Sturgeon WBD	*	0	0	-150	0	*	AG	100	1.0	.0	10.0
L. Sturgeon WBL	*	150	2	0	0	*	AG	0	.9	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	448	.8	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	368	.8	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	480	.8	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	510	.8	.0	10.0
Q. Sturgeo EBAX	*	-750	0	-150	0	*	AG	50	.9	.0	10.0
R. Sturgeo EBDX	*	150	0	750	0	*	AG	0	.9	.0	10.0
S. Sturgeo WBAX	*	750	0	150	0	*	AG	0	.9	.0	10.0
T. Sturgeo WBDX	*	-150	0	-750	0	*	AG	100	.9	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. SE	*	12	-7	1.8
2. NW	*	-8	7	1.8
3. SW	*	-8	-7	1.8
4. NE	*	12	7	1.8
5. ES mdblk	*	150	-7	1.8
6. WN mdblk	*	-150	7	1.8
7. WS mdblk	*	-150	-7	1.8
8. EN mdblk	*	150	7	1.8
9. SE mdblk	*	12	-150	1.8
10. NW mdblk	*	-8	150	1.8
11. SW mdblk	*	-8	-150	1.8
12. NE mdblk	*	12	150	1.8
13. ES blk	*	600	-7	1.8
14. WN blk	*	-600	7	1.8
15. WS blk	*	-600	-7	1.8
16. EN blk	*	600	7	1.8
17. SE blk	*	12	-600	1.8
18. NW blk	*	-8	600	1.8
19. SW blk	*	-8	-600	1.8
20. NE blk	*	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	173.	.1	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	172.	.1	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	99.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	85.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035nP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	7	-150	7	0	AG	210	1.4	.0	10.0
B. Mariners NBD	7	0	7	150	AG	678	1.5	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	20	1.5	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	40	1.4	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	240	1.0	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	410	1.5	.0	10.0
G. Hammer L EBA	-150	-9	0	-9	AG	1626	1.2	.0	13.5
H. Hammer L EBD	0	-9	150	-9	AG	2176	.9	.0	11.8
I. Hammer L EBL	-150	-5	0	0	AG	10	1.5	.0	10.0
J. Hammer L WBA	150	14	0	14	AG	2873	1.5	.0	17.0
K. Hammer L WBD	0	14	-150	14	AG	2295	.9	.0	13.5
L. Hammer L WBL	150	9	0	0	AG	200	1.5	.0	10.0
M. Mariner NBAX	7	-750	7	-150	AG	230	.8	.0	10.0
N. Mariner NBDX	7	150	7	750	AG	678	.8	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	450	.8	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	240	.8	.0	10.0
Q. Hammer EBAX	-750	-9	-150	-9	AG	1636	.8	.0	13.5
R. Hammer EBDX	150	-9	750	-9	AG	2176	.8	.0	11.8
S. Hammer WBAX	750	14	150	14	AG	3073	.8	.0	17.0
T. Hammer WBDX	-150	14	-750	14	AG	2295	.8	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2035nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	14	-16	1.8
2. NW	-8	22	1.8
3. SW	-8	-17	1.8
4. NE	14	24	1.8
5. ES mdblk	150	-16	1.8
6. WN mdblk	-150	22	1.8
7. WS mdblk	-150	-17	1.8
8. EN mdblk	150	24	1.8
9. SE mdblk	14	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	14	150	1.8
13. ES blk	600	-16	1.8
14. WN blk	-600	22	1.8
15. WS blk	-600	-17	1.8
16. EN blk	600	24	1.8
17. SE blk	14	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	353.	.5	.0	.1	.0	.0	.0	.0	.0	.1
2. NW	97.	.7	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	77.	.4	.0	.0	.0	.0	.0	.0	.0	.2
4. NE	100.	.6	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	281.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	97.	.4	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.4	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	260.	.6	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	357.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	169.	.3	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	188.	.3	.0	.1	.0	.0	.0	.0	.0	.0
13. ES blk	278.	.4	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	357.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2035nP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

TRINITY PARKWAY EXTENSION PHASE 2

AIR QUALITY CO HOT SPOT ANALYSIS

CALINE4 MODEL PRINTOUTS

FUTURE YEAR (2035) WITH PROJECT SCENARIO

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
	*	LINK COORDINATES (M)				*					
A. Trinity NBA	*	4	-150	4	0	*	AG	1582	1.4	.0	10.0
B. Trinity NBD	*	4	0	4	150	*	AG	1813	1.1	.0	10.0
C. Trinity NBL	*	2	-150	0	0	*	AG	0	.8	.0	10.0
D. Trinity SBA	*	-7	150	-7	0	*	AG	1526	1.4	.0	10.0
E. Trinity SBD	*	-7	0	-7	-150	*	AG	1667	1.0	.0	10.0
F. Trinity SBL	*	-5	150	0	0	*	AG	283	1.5	.0	10.0
G. McAuliff EBA	*	-150	0	0	0	*	AG	0	.8	.0	10.0
H. McAuliff EBD	*	0	0	150	0	*	AG	419	1.3	.0	10.0
I. McAuliff EBL	*	-150	-2	0	0	*	AG	0	.8	.0	10.0
J. McAuliff WBA	*	150	5	0	5	*	AG	367	1.5	.0	10.0
K. McAuliff WBD	*	0	5	-150	5	*	AG	0	.8	.0	10.0
L. McAuliff WBL	*	150	5	0	0	*	AG	141	1.5	.0	10.0
M. Trinity NBAX	*	4	-750	4	-150	*	AG	1582	.8	.0	10.0
N. Trinity NBDX	*	4	150	4	750	*	AG	1813	.8	.0	10.0
O. Trinity SBAX	*	-7	750	-7	150	*	AG	1809	.8	.0	10.0
P. Trinity SBDX	*	-7	-150	-7	-750	*	AG	1667	.8	.0	10.0
Q. McAulif EBAX	*	-750	0	-150	0	*	AG	0	.8	.0	10.0
R. McAulif EBDX	*	150	0	750	0	*	AG	419	.8	.0	10.0
S. McAulif WBAX	*	750	5	150	5	*	AG	508	.8	.0	10.0
T. McAulif WBDX	*	-150	5	-750	5	*	AG	0	.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION

JOB: Trinity Parkway Extension
RUN: 2035wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	10	-7	1.8
2. NW	-14	12	1.8
3. SW	-14	-7	1.8
4. NE	10	12	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	12	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	12	1.8
9. SE mdblk	10	-150	1.8
10. NW mdblk	-14	150	1.8
11. SW mdblk	-14	-150	1.8
12. NE mdblk	10	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	12	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	12	1.8
17. SE blk	10	-600	1.8
18. NW blk	-14	600	1.8
19. SW blk	-14	-600	1.8
20. NE blk	10	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	351.	.5	.0	.2	.0	.0	.0	.0	.0	.0
2. NW	9.	.5	.0	.0	.0	.3	.0	.0	.0	.0
3. SW	8.	.4	.0	.0	.0	.3	.0	.0	.0	.0
4. NE	188.	.5	.2	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	281.	.2	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	92.	.1	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	87.	.1	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	259.	.2	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.5	.3	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	171.	.5	.0	.0	.0	.3	.0	.0	.0	.0
11. SW mdblk	8.	.4	.0	.0	.0	.0	.2	.0	.0	.0
12. NE mdblk	188.	.5	.0	.3	.0	.0	.0	.0	.0	.0
13. ES blk	276.	.1	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	90.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	88.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	264.	.1	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	353.	.3	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	7.	.3	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.3	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035wP-03 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*	CONC/LINK (PPM)											
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	*	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Askland NBA	*	12	-150	12	0	*	AG	682	1.3	.0	13.5
B. Askland NBD	*	12	0	12	150	*	AG	1571	1.1	.0	10.0
C. Askland NBL	*	9	-150	0	0	*	AG	312	1.5	.0	10.0
D. Askland SBA	*	-12	150	-12	0	*	AG	885	1.3	.0	13.5
E. Askland SBD	*	-12	0	-12	-150	*	AG	916	.9	.0	10.0
F. Askland SBL	*	-9	150	0	0	*	AG	673	1.5	.0	10.0
G. Otto Dri EBA	*	-150	-9	0	-9	*	AG	983	1.3	.0	13.5
H. Otto Dri EBD	*	0	-9	150	-9	*	AG	1674	1.3	.0	10.0
I. Otto Dri EBL	*	-150	-5	0	0	*	AG	258	1.5	.0	10.0
J. Otto Dri WBA	*	150	9	0	9	*	AG	2492	1.5	.0	13.5
K. Otto Dri WBD	*	0	9	-150	9	*	AG	2344	1.4	.0	10.0
L. Otto Dri WBL	*	150	5	0	0	*	AG	220	1.5	.0	10.0
M. Askland NBAX	*	12	-750	12	-150	*	AG	994	.8	.0	13.5
N. Askland NBDX	*	12	150	12	750	*	AG	1571	.8	.0	10.0
O. Askland SBAX	*	-12	750	-12	150	*	AG	1558	.8	.0	13.5
P. Askland SBDX	*	-12	-150	-12	-750	*	AG	916	.8	.0	10.0
Q. Otto Dr EBAX	*	-750	-9	-150	-9	*	AG	1241	.8	.0	13.5
R. Otto Dr EBDX	*	150	-9	750	-9	*	AG	1674	.8	.0	10.0
S. Otto Dr WBAX	*	750	9	150	9	*	AG	2712	.8	.0	13.5
T. Otto Dr WBDX	*	-150	9	-750	9	*	AG	2344	.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	21	-15	1.8
2. NW	-21	15	1.8
3. SW	-19	-17	1.8
4. NE	19	17	1.8
5. ES mdblk	150	-15	1.8
6. WN mdblk	-150	15	1.8
7. WS mdblk	-150	-17	1.8
8. EN mdblk	150	17	1.8
9. SE mdblk	21	-150	1.8
10. NW mdblk	-21	150	1.8
11. SW mdblk	-19	-150	1.8
12. NE mdblk	19	150	1.8
13. ES blk	600	-15	1.8
14. WN blk	-600	15	1.8
15. WS blk	-600	-17	1.8
16. EN blk	600	17	1.8
17. SE blk	21	-600	1.8
18. NW blk	-21	600	1.8
19. SW blk	-19	-600	1.8
20. NE blk	19	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	349.	.6	.0	.2	.0	.0	.0	.0	.0	.1
2. NW	98.	.7	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	79.	.5	.0	.0	.0	.0	.0	.0	.0	.2
4. NE	259.	.7	.0	.1	.0	.0	.0	.0	.0	.0
5. ES mdblk	280.	.5	.0	.0	.0	.0	.0	.0	.0	.3
6. WN mdblk	98.	.6	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	81.	.4	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	261.	.6	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.3	.1	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	168.	.4	.0	.0	.0	.1	.0	.0	.0	.0
11. SW mdblk	8.	.3	.0	.0	.0	.0	.1	.0	.0	.0
12. NE mdblk	189.	.4	.0	.2	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.4	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.4	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.2	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.3	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	187.	.3	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035wP-04 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.3	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.1	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0
17. SE blk	*	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.2	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	190	1.4	.0	10.0
B. Mariners NBD	5	0	5	150	AG	100	.9	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	201	1.5	.0	10.0
D. Mariners SBA	-5	150	-5	0	AG	30	1.4	.0	10.0
E. Mariners SBD	-5	0	-5	-150	AG	489	1.3	.0	10.0
F. Mariners SBL	-5	150	0	0	AG	30	1.5	.0	10.0
G. Otto Dri EBA	-150	-9	0	-9	AG	1654	1.2	.0	13.5
H. Otto Dri EBD	0	-9	150	-9	AG	1725	.9	.0	11.8
I. Otto Dri EBL	-150	-5	0	0	AG	20	1.5	.0	10.0
J. Otto Dri WBA	150	7	0	7	AG	2571	1.5	.0	10.0
K. Otto Dri WBD	0	7	-150	7	AG	2712	1.1	.0	10.0
L. Otto Dri WBL	150	5	0	0	AG	330	1.5	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	391	.8	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	100	.8	.0	10.0
O. Mariner SBAX	-5	750	-5	150	AG	60	.8	.0	10.0
P. Mariner SBDX	-5	-150	-5	-750	AG	489	.8	.0	10.0
Q. Otto Dr EBAX	-750	-9	-150	-9	AG	1674	.8	.0	13.5
R. Otto Dr EBDX	150	-9	750	-9	AG	1725	.8	.0	11.8
S. Otto Dr WBAX	750	7	150	7	AG	2901	.8	.0	10.0
T. Otto Dr WBDX	-150	7	-750	7	AG	2712	.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-16	1.8
2. NW	-12	14	1.8
3. SW	-12	-17	1.8
4. NE	12	14	1.8
5. ES mdblk	150	-16	1.8
6. WN mdblk	-150	14	1.8
7. WS mdblk	-150	-17	1.8
8. EN mdblk	150	14	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-12	150	1.8
11. SW mdblk	-12	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-16	1.8
14. WN blk	-600	14	1.8
15. WS blk	-600	-17	1.8
16. EN blk	600	14	1.8
17. SE blk	12	-600	1.8
18. NW blk	-12	600	1.8
19. SW blk	-12	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	278.	.5	.0	.0	.0	.0	.0	.0	.2	.0
2. NW	99.	.6	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	77.	.5	.0	.0	.0	.0	.0	.0	.0	.1
4. NE	99.	.6	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	279.	.4	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	98.	.5	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.4	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	261.	.7	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	349.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	175.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	11.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	183.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	277.	.3	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.4	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	175.	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	183.	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035wP-05 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*	CONC/LINK (PPM)											
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	5	-150	5	0	AG	381	1.2	.0	10.0
B. Mariners NBD	5	0	5	150	AG	391	.9	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	10	1.5	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	489	1.2	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	489	.9	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	0	.8	.0	10.0
G. Whitewat EBA	-150	0	0	0	AG	10	1.4	.0	10.0
H. Whitewat EBD	0	0	150	0	AG	0	.8	.0	10.0
I. Whitewat EBL	-150	-2	0	0	AG	10	1.5	.0	10.0
J. Whitewat WBA	150	0	0	0	AG	0	.8	.0	10.0
K. Whitewat WBD	0	0	-150	0	AG	20	.9	.0	10.0
L. Whitewat WBL	150	2	0	0	AG	0	.8	.0	10.0
M. Mariner NBAX	5	-750	5	-150	AG	391	.8	.0	10.0
N. Mariner NBDX	5	150	5	750	AG	391	.8	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	489	.8	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	489	.8	.0	10.0
Q. Whitewa EBAX	-750	0	-150	0	AG	20	.8	.0	10.0
R. Whitewa EBDX	150	0	750	0	AG	0	.8	.0	10.0
S. Whitewa WBAX	750	0	150	0	AG	0	.8	.0	10.0
T. Whitewa WBDX	-150	0	-750	0	AG	20	.8	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-7	1.8
2. NW	-8	7	1.8
3. SW	-8	-7	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	98.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	94.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	86.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	270.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035wP-06 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	.5 M/S	Z0=	100. CM	ALT=	2. (M)
BRG=	WORST CASE	VD=	.0 CM/S		
CLAS=	7 (G)	VS=	.0 CM/S		
MIXH=	1000. M	AMB=	.0 PPM		
SIGTH=	10. DEGREES	TEMP=	10.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	2	-150	2	0	*	AG	401	1.2	.0	10.0
B. Mariners NBD	*	2	0	2	150	*	AG	391	.9	.0	10.0
C. Mariners NBL	*	2	-150	0	0	*	AG	0	.8	.0	10.0
D. Mariners SBA	*	-5	150	-5	0	*	AG	479	1.2	.0	10.0
E. Mariners SBD	*	-5	0	-5	-150	*	AG	499	.9	.0	10.0
F. Mariners SBL	*	-5	150	0	0	*	AG	10	1.5	.0	10.0
G. Blackswa EBA	*	-150	0	0	0	*	AG	0	.9	.0	10.0
H. Blackswa EBD	*	0	0	150	0	*	AG	30	1.0	.0	10.0
I. Blackswa EBL	*	-150	-2	0	0	*	AG	0	.9	.0	10.0
J. Blackswa WBA	*	150	0	0	0	*	AG	10	1.4	.0	10.0
K. Blackswa WBD	*	0	0	-150	0	*	AG	0	.9	.0	10.0
L. Blackswa WBL	*	150	2	0	0	*	AG	20	1.5	.0	10.0
M. Mariner NBAX	*	2	-750	2	-150	*	AG	401	.8	.0	10.0
N. Mariner NBDX	*	2	150	2	750	*	AG	391	.8	.0	10.0
O. Mariner SBAX	*	-5	750	-5	150	*	AG	489	.8	.0	10.0
P. Mariner SBDX	*	-5	-150	-5	-750	*	AG	499	.8	.0	10.0
Q. Blacksw EBAX	*	-750	0	-150	0	*	AG	0	.9	.0	10.0
R. Blacksw EBDX	*	150	0	750	0	*	AG	30	.9	.0	10.0
S. Blacksw WBAX	*	750	0	150	0	*	AG	30	.9	.0	10.0
T. Blacksw WBDX	*	-150	0	-750	0	*	AG	0	.9	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	8	-7	1.8
2. NW	-12	7	1.8
3. SW	-12	-7	1.8
4. NE	8	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	8	-150	1.8
10. NW mdblk	-12	150	1.8
11. SW mdblk	-12	-150	1.8
12. NE mdblk	8	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	8	-600	1.8
18. NW blk	-12	600	1.8
19. SW blk	-12	-600	1.8
20. NE blk	8	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	278.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	91.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	263.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.1	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	173.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	274.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	90.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	89.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	266.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035wP-07 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*						CONC/LINK (PPM)						
1. SE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	*	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	*	5	-150	5	0	*	AG	391	1.2	.0	10.0
B. Mariners NBD	*	5	0	5	150	*	AG	401	.9	.0	10.0
C. Mariners NBL	*	5	-150	0	0	*	AG	90	1.5	.0	10.0
D. Mariners SBA	*	-2	150	-2	0	*	AG	499	1.2	.0	10.0
E. Mariners SBD	*	-2	0	-2	-150	*	AG	529	.9	.0	10.0
F. Mariners SBL	*	-2	150	0	0	*	AG	0	.8	.0	10.0
G. Sturgeon EBA	*	-150	0	0	0	*	AG	40	1.4	.0	10.0
H. Sturgeon EBD	*	0	0	150	0	*	AG	0	.9	.0	10.0
I. Sturgeon EBL	*	-150	-2	0	0	*	AG	10	1.5	.0	10.0
J. Sturgeon WBA	*	150	0	0	0	*	AG	0	.9	.0	10.0
K. Sturgeon WBD	*	0	0	-150	0	*	AG	100	1.0	.0	10.0
L. Sturgeon WBL	*	150	2	0	0	*	AG	0	.9	.0	10.0
M. Mariner NBAX	*	5	-750	5	-150	*	AG	481	.8	.0	10.0
N. Mariner NBDX	*	5	150	5	750	*	AG	401	.8	.0	10.0
O. Mariner SBAX	*	-2	750	-2	150	*	AG	499	.8	.0	10.0
P. Mariner SBDX	*	-2	-150	-2	-750	*	AG	529	.8	.0	10.0
Q. Sturgeo EBAX	*	-750	0	-150	0	*	AG	50	.9	.0	10.0
R. Sturgeo EBDX	*	150	0	750	0	*	AG	0	.9	.0	10.0
S. Sturgeo WBAX	*	750	0	150	0	*	AG	0	.9	.0	10.0
T. Sturgeo WBDX	*	-150	0	-750	0	*	AG	100	.9	.0	10.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	12	-7	1.8
2. NW	-8	7	1.8
3. SW	-8	-7	1.8
4. NE	12	7	1.8
5. ES mdblk	150	-7	1.8
6. WN mdblk	-150	7	1.8
7. WS mdblk	-150	-7	1.8
8. EN mdblk	150	7	1.8
9. SE mdblk	12	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	12	150	1.8
13. ES blk	600	-7	1.8
14. WN blk	-600	7	1.8
15. WS blk	-600	-7	1.8
16. EN blk	600	7	1.8
17. SE blk	12	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	12	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	173.	.2	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	172.	.1	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	187.	.1	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	271.	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	99.	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	353.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	7.	.1	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	95.	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	85.	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	269.	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	354.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	174.	.1	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.1	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035wP-08 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. SE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Trinity Parkway Extension
RUN: 2035wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= .5 M/S	Z0= 100. CM	ALT= 2. (M)
BRG= WORST CASE	VD= .0 CM/S	
CLAS= 7 (G)	VS= .0 CM/S	
MIXH= 1000. M	AMB= .0 PPM	
SIGTH= 10. DEGREES	TEMP= 10.0 DEGREE (C)	

II. LINK VARIABLES

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. Mariners NBA	7	-150	7	0	AG	210	1.4	.0	10.0
B. Mariners NBD	7	0	7	150	AG	711	1.5	.0	10.0
C. Mariners NBL	5	-150	0	0	AG	20	1.5	.0	10.0
D. Mariners SBA	-2	150	-2	0	AG	40	1.4	.0	10.0
E. Mariners SBD	-2	0	-2	-150	AG	240	1.0	.0	10.0
F. Mariners SBL	-2	150	0	0	AG	429	1.5	.0	10.0
G. Hammer L EBA	-150	-9	0	-9	AG	1666	1.2	.0	13.5
H. Hammer L EBD	0	-9	150	-9	AG	2235	.9	.0	11.8
I. Hammer L EBL	-150	-5	0	0	AG	10	1.5	.0	10.0
J. Hammer L WBA	150	14	0	14	AG	2975	1.5	.0	17.0
K. Hammer L WBD	0	14	-150	14	AG	2364	.9	.0	13.5
L. Hammer L WBL	150	9	0	0	AG	200	1.5	.0	10.0
M. Mariner NBAX	7	-750	7	-150	AG	230	.8	.0	10.0
N. Mariner NBDX	7	150	7	750	AG	711	.8	.0	10.0
O. Mariner SBAX	-2	750	-2	150	AG	469	.8	.0	10.0
P. Mariner SBDX	-2	-150	-2	-750	AG	240	.8	.0	10.0
Q. Hammer EBAX	-750	-9	-150	-9	AG	1676	.8	.0	13.5
R. Hammer EBDX	150	-9	750	-9	AG	2235	.8	.0	11.8
S. Hammer WBAX	750	14	150	14	AG	3175	.8	.0	17.0
T. Hammer WBDX	-150	14	-750	14	AG	2364	.8	.0	13.5

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Trinity Parkway Extension
RUN: 2035wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. SE	14	-16	1.8
2. NW	-8	22	1.8
3. SW	-8	-17	1.8
4. NE	14	24	1.8
5. ES mdblk	150	-16	1.8
6. WN mdblk	-150	22	1.8
7. WS mdblk	-150	-17	1.8
8. EN mdblk	150	24	1.8
9. SE mdblk	14	-150	1.8
10. NW mdblk	-8	150	1.8
11. SW mdblk	-8	-150	1.8
12. NE mdblk	14	150	1.8
13. ES blk	600	-16	1.8
14. WN blk	-600	22	1.8
15. WS blk	-600	-17	1.8
16. EN blk	600	24	1.8
17. SE blk	14	-600	1.8
18. NW blk	-8	600	1.8
19. SW blk	-8	-600	1.8
20. NE blk	14	600	1.8

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 3

JOB: Trinity Parkway Extension
RUN: 2035wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. SE	353.	.5	.0	.1	.0	.0	.0	.0	.0	.1
2. NW	97.	.7	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	77.	.4	.0	.0	.0	.0	.0	.0	.0	.2
4. NE	100.	.6	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	281.	.5	.0	.0	.0	.0	.0	.0	.0	.2
6. WN mdblk	97.	.4	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	82.	.5	.0	.0	.0	.0	.0	.0	.2	.0
8. EN mdblk	260.	.6	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	357.	.2	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	169.	.3	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	6.	.2	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	188.	.3	.0	.2	.0	.0	.0	.0	.0	.0
13. ES blk	278.	.4	.0	.0	.0	.0	.0	.0	.0	.0
14. WN blk	97.	.3	.0	.0	.0	.0	.0	.0	.0	.0
15. WS blk	83.	.3	.0	.0	.0	.0	.0	.0	.0	.0
16. EN blk	263.	.4	.0	.0	.0	.0	.0	.0	.0	.0
17. SE blk	357.	.1	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	173.	.2	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	6.	.1	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	186.	.2	.0	.0	.0	.0	.0	.0	.0	.0

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 4

JOB: Trinity Parkway Extension
RUN: 2035wP-09 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

IV. MODEL RESULTS (WORST CASE WIND ANGLE) (CONT.)

RECEPTOR	*	I	J	K	L	M	N	O	P	Q	R	S	T
	*	CONC/LINK (PPM)											
1. SE	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
2. NW	*	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
3. SW	*	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
4. NE	*	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5. ES mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
6. WN mdblk	*	.0	.0	.2	.0	.0	.0	.0	.0	.0	.0	.0	.0
7. WS mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
8. EN mdblk	*	.0	.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9. SE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
10. NW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
11. SW mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12. NE mdblk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
13. ES blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0
14. WN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.2
15. WS blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.2	.0	.0	.0
16. EN blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3	.0
17. SE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
18. NW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
19. SW blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
20. NE blk	*	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

APPENDIX B

EMFAC2002 MODEL PRINTOUTS

Title   : San Joaquin Valley Air Basin Avg 2005 Winter
Version : Emfac2002 V2.2 Apr 23 2003
Run Date : 04/25/06 10:09:01
Scen Year: 2005 -- Model Years: 1965 to 2005
Season   : Winter
Area   : San Joaquin Valley AB
****

Year:2005 -- Model Years 1965 to 2005 Inclusive -- Winter
Emfac2002 Emission Factors: V2.2 Apr 23 2003

San Joaquin Valley A   Basin Average   Basin Average

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Carbon Monoxide   Temperature: 50F Relative Humidity: 40%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	9.797	17.690	14.431	35.153	110.958	49.547	15.400
5	8.881	15.678	13.044	35.153	110.958	49.547	14.140
10	7.466	12.670	10.134	23.636	73.538	40.679	11.107
15	6.440	10.600	8.225	16.746	51.520	35.158	9.097
20	5.672	9.135	6.931	12.501	38.153	31.984	7.720
25	5.087	8.082	6.037	9.831	29.863	30.625	6.754
30	4.637	7.326	5.418	8.144	24.706	30.867	6.073
35	4.293	6.799	5.003	7.108	21.603	32.752	5.604
40	4.040	6.466	4.754	6.536	19.964	36.590	5.309
45	3.869	6.313	4.657	6.332	19.498	43.047	5.171
50	3.784	6.352	4.718	6.465	20.126	53.337	5.198
55	3.795	6.621	4.968	6.957	21.954	69.610	5.421
60	3.931	7.196	5.471	7.895	25.309	95.694	5.907
65	4.241	8.218	6.345	9.449	30.834	138.573	6.779

Title   : San Joaquin Valley Air Basin Avg 2025 Winter
Version   : Emfac2002 V2.2 Apr 23 2003
Run Date : 04/25/06 10:12:59
Scen Year: 2025 -- Model Years: 1980 to 2025
Season   : Winter
Area   : San Joaquin Valley AB
****
****
Year:2025 -- Model Years 1980 to 2025 Inclusive -- Winter
Emfac2002 Emission Factors: V2.2 Apr 23 2003

San Joaquin Valley A   Basin Average   Basin
Average

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Carbon Monoxide   Temperature: 50F Relative
Humidity: 40%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	1.241	2.085	2.456	5.668	22.420	26.167	2.187
5	1.177	1.963	2.329	5.668	22.420	26.167	2.103
10	1.065	1.752	1.991	3.870	14.758	22.158	1.751
15	0.967	1.575	1.741	2.773	10.278	19.508	1.502
20	0.882	1.427	1.548	2.085	7.572	17.823	1.318
25	0.809	1.301	1.395	1.645	5.900	16.889	1.179
30	0.744	1.193	1.271	1.361	4.863	16.618	1.071
35	0.687	1.101	1.170	1.182	4.239	17.021	0.986
40	0.637	1.022	1.086	1.077	3.907	18.215	0.921
45	0.593	0.954	1.019	1.030	3.808	20.452	0.874
50	0.554	0.897	0.966	1.033	3.924	24.200	0.844
55	0.520	0.849	0.928	1.089	4.276	30.288	0.834
60	0.491	0.810	0.905	1.204	4.927	40.197	0.849
65	0.465	0.781	0.903	1.399	6.003	56.627	0.901

Title : San Joaquin Valley Air Basin Avg 2035 Winter
Version : Emfac2002 V2.2 Apr 23 2003
Run Date : 04/25/06 10:13:51
Scen Year: 2035 -- Model Years: 1990 to 2035
Season : Winter
Area : San Joaquin Valley AB
****

Year:2035 -- Model Years 1990 to 2035 Inclusive -- Winter
Emfac2002 Emission Factors: V2.2 Apr 23 2003

San Joaquin Valley A Basin Average Basin Average

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Carbon Monoxide Temperature: 50F Relative Humidity: 40%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.879	1.232	1.803	4.791	11.697	25.806	1.510
5	0.838	1.173	1.731	4.791	11.697	25.806	1.463
10	0.763	1.067	1.508	3.279	7.697	21.876	1.224
15	0.698	0.974	1.337	2.354	5.359	19.271	1.055
20	0.639	0.891	1.201	1.772	3.947	17.609	0.930
25	0.588	0.818	1.089	1.398	3.076	16.680	0.834
30	0.542	0.754	0.995	1.157	2.534	16.399	0.759
35	0.501	0.697	0.916	1.004	2.209	16.776	0.700
40	0.464	0.646	0.848	0.914	2.036	17.924	0.654
45	0.431	0.600	0.790	0.872	1.984	20.089	0.620
50	0.402	0.560	0.741	0.872	2.044	23.726	0.598
55	0.376	0.524	0.699	0.915	2.228	29.642	0.589
60	0.352	0.492	0.666	1.008	2.567	39.277	0.599
65	0.331	0.463	0.641	1.166	3.127	55.262	0.636

DRAFT

A CULTURAL AND PALEONTOLOGICAL RESOURCES STUDY FOR THE TRINITY PARKWAY PROJECT

STOCKTON, SAN JOAQUIN COUNTY, CALIFORNIA

LSA

August 31, 2005

DRAFT

A CULTURAL AND PALEONTOLOGICAL RESOURCES STUDY FOR THE TRINITY PARKWAY PROJECT

STOCKTON, SAN JOAQUIN COUNTY, CALIFORNIA

Submitted to:

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August 31, 2005

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FIGURES

INTRODUCTION

The A.G. Spanos Companies is proposing to construct a .75-mile southerly extension of proposed Trinity Parkway to connect with a proposed .25-mile westerly extension of Hammer Lane, southwest of Interstate 5, outside the city boundary of Stockton, San Joaquin County, California (Figures 1 and 2).

The purpose of this study is to (1) identify cultural resources that may meet the California Environmental Quality Act (CEQA) definition of a historical or archaeological resource and may be affected by the project; and (2) identify paleontological resources (fossils) that may be significant and may be affected by the project.

This study identified recorded and unrecorded cultural resources within the project area; and sensitivity for paleontological resources within the project area. Recommendations for the treatment of such resources are presented below in the Results and Recommendations sections.

LEGISLATIVE CONTEXT

California Environmental Quality Act

CEQA applies to all discretionary projects undertaken or subject to approval by the state's public agencies (California Code of Regulations [CCR] Title 14(3) § 15002(i)). CEQA states that it is the policy of the State of California to "take all action necessary to provide the people of this state with... historic environmental qualities...and preserve for future generations examples of the major periods of California history" (Public Resources Code [PRC] § 21001(b), (c)). Under the provisions of CEQA, "A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment" (CCR Title 14(3) § 15064.5(b)).

CEQA defines a "historical resource" as a resource which meets one or more of the following criteria:

- Eligible for listing in the California Register;
- Listed in a local register of historical resources (as defined at PRC § 5020.1(k));
- Identified as significant in a historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code; or
- Determined to be a historical resource by a project's lead agency (CCR Title 14(3) § 15064.5(a)).

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California . . . Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (CCR Title 14(3) § 15064.5(a)(3)).

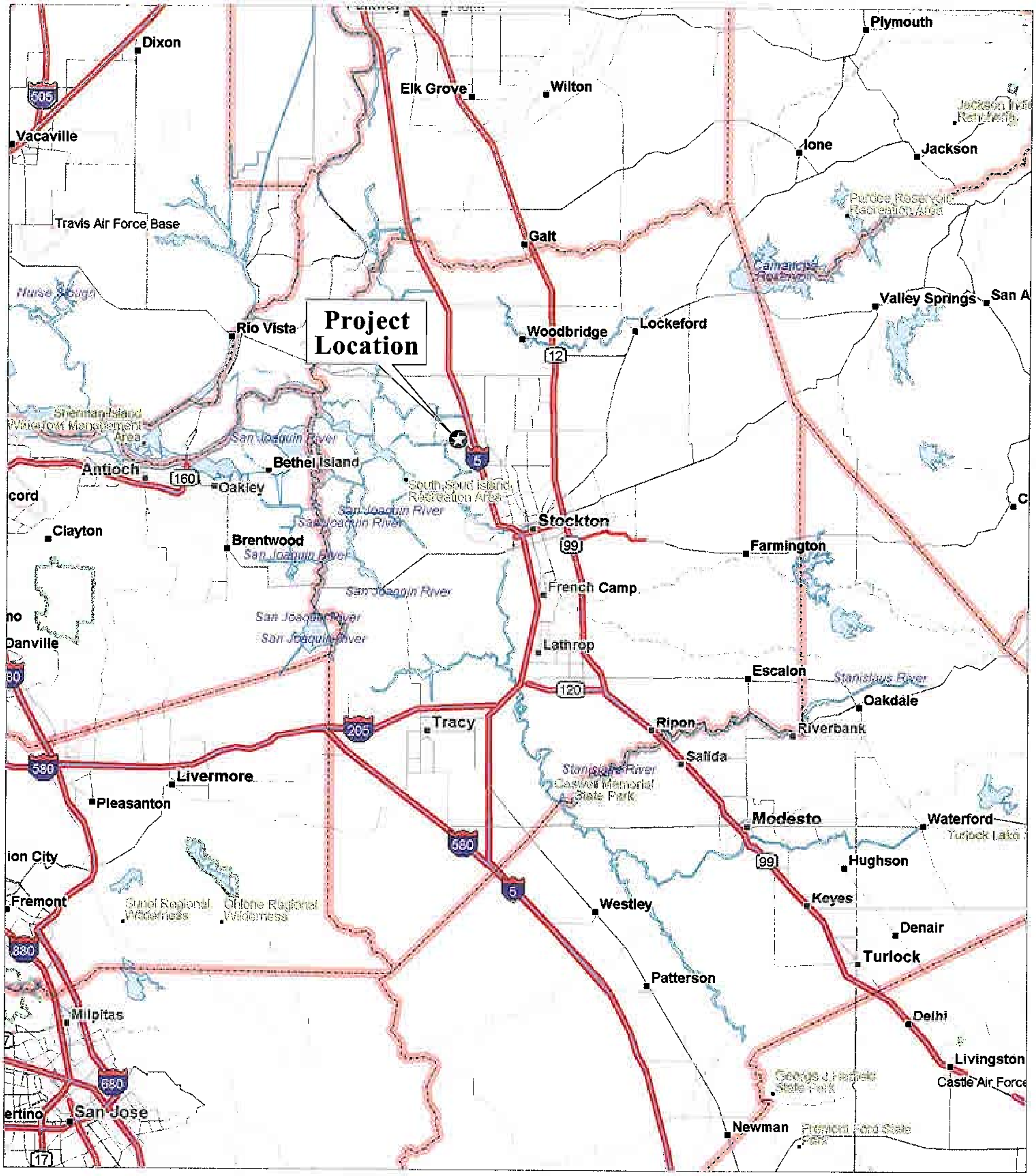

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FIGURE 1

Trinity Parkway
Stockton, San Joaquin County, California

Project Location

0 10
MILES

SOURCE: ©2002 DeLORME. STREET ATLAS USA®2003.

P:\AGS434\g\DeLormeRegLoc.cdr (8/29/05)

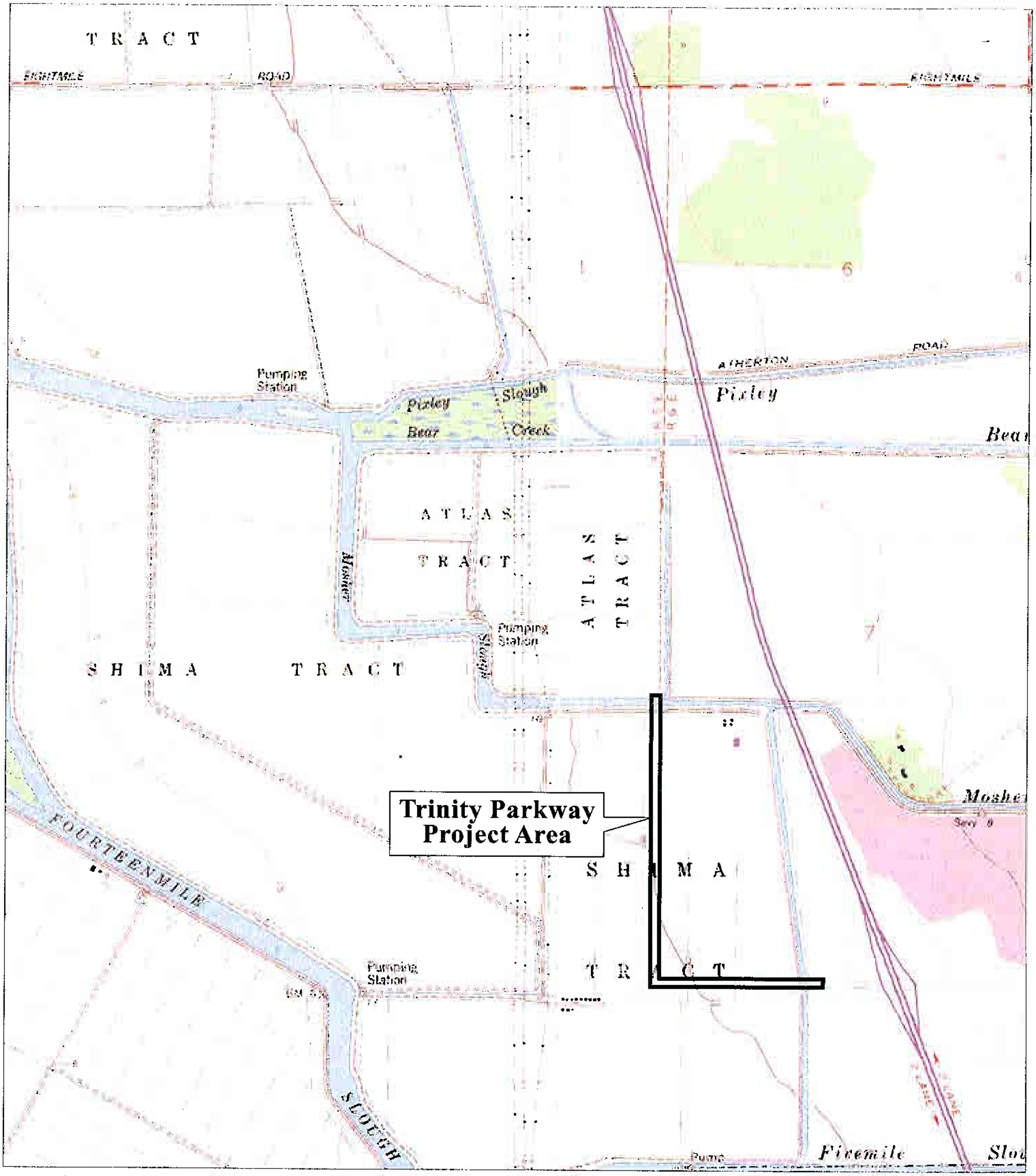

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FIGURE 2

Trinity Parkway
Stockton, San Joaquin County, California

Project Area

0 2000
FEET

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

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CEQA requires that historical resources and unique archaeological resources be taken into consideration during the CEQA planning process (CCR Title 14(3) § 15064.5; PRC § 21083.2). Adverse effects to the significance of historical resources must be avoided or the effects mitigated (CCR Title 14(3) § 15064.5(b)(4)). CEQA Guidelines Title 14(3) § 15064.5(b) states that a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. The significance of an historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for the California Register of Historical Resources. If there is a substantial adverse change in the significance of a historical resource, the preparation of an environmental impact report may be required (CCR Title 14(3) § 15065(a)).

If the cultural resource in question is an archaeological site, CEQA (CCR Title 14(3) § 15064.5(c)(1)) requires that the lead agency first determine if the site is a historical resource as defined in CCR Title 14(3) § 15064.5(a). If the site qualifies as a historical resource, potential adverse impacts must be considered in the same manner as a historical resource (California Office of Historic Preservation 2001a:5) If the archaeological site does not qualify as a historical resource but does qualify as a unique archaeological site, then the archaeological site is treated in accordance with PRC § 21083.2 (CCR Title 14(3) § 15069.5(c)(3)). In practice, most archaeological sites that meet the definition of a unique archaeological resource will also meet the definition of a historical resource (Bass, Herson, and Bogdan 1999:105).

CEQA defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; or
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC § 21083.2(g)).

If an impact to a historical or archaeological resource is significant, CEQA requires feasible measures to minimize the impact (CCR 14(3) § 15126.4(a)(1)). Mitigation of significant impacts must lessen or eliminate the physical impact that the project will have on the historical resources. Generally, the use of drawings, photographs, and/or displays does not mitigate the physical impact on the environment caused by demolition or destruction of a historical resource. However, CEQA requires that all feasible mitigation be undertaken even if it does not mitigate impacts to a less than significant level of impact (California Office of Historic Preservation 2001b:6).

California Register of Historical Resources

The California Register of Historical Resources (California Register) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The California Register helps government agencies identify, evaluate, and protect California's historical resources (California Office of Historic Preservation 2001b:1), and indicates which properties are to be protected from substantial adverse change (PRC § 5024.1(a)). Any resource listed in, or eligible for listing in, the California Register is to be considered during the CEQA process (California Office of Historic Preservation 2001b:4).

A cultural resource is evaluated under four California Register criteria to determine its historical significance. A resource must be significant at the local, state, or national level in accordance with one or more of the following criteria:

1) Is associated with events that have made a significant contribution to the broad pattern of California's history and cultural heritage;
2) Is associated with the lives of persons important in our past;
3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4) Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time must have passed to allow a "scholarly perspective on the events or individuals associated with the resource." Fifty years is used as a general estimate of the time needed to understand the historical importance of a resource (California Office of Historic Preservation 1999:3). The State of California Office of Historic Preservation recommends documenting, and taking into consideration in the planning process, any cultural resource that is 45 years or older (California Office of Historic Preservation 1995:2).

The California Register also requires a resource to possess integrity, which is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association" (California Office of Historic Preservation 1999:2).

Resources that are significant, meet the age guidelines, and possess integrity will generally be considered eligible for listing in the California Register.

Public Resources Code § 5097.5

The California Public Resources Code § 5097.5 prohibits excavation or removal of any "vertebrate paleontological site...or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof, § 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

Human Remains

Section 7050.5 of the California Health and Safety Code states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Paleontological Resources

Paleontological resources consist of fossils and fossiliferous deposits. CEQA requires that a determination be made as to whether a project would directly or indirectly destroy a unique paleontological resource or site or unique geological feature (CEQA Appendix G(v)(c)).

The Society of Vertebrate Paleontology has identified vertebrate fossils, their taphonomic and associated environmental indicators, and fossiliferous deposits as significant nonrenewable paleontological resources. Botanical and invertebrate fossils and assemblages may also be considered significant resources (Conformable Impact Mitigation Guidelines Committee 1995).

PROJECT AREA

The project area is southwest of Interstate 5 and west of Hammer Lane, in the City of Stockton's jurisdictional area, on the northwestern side of Stockton, San Joaquin County, California (Figures 1 and 2). The project area consists of approximately seven acres of agricultural land in the Shima Tract, in northern San Joaquin Valley.

The project area is on nearly level terrain at sea level. Geologically, the project area lies on Pleistocene sediments of the Modesto Formation which are underlain at great depth by undifferentiated Tertiary and Mesozoic sediments (Wagner et al. 1991). The Modesto Formation Pleistocene sediments have yielded significant vertebrate fossils (Savage 1951; Stirton 1951; Bell et al. 2004).

The north/south portion of the project area consists of Guard clay loam and Rioblancho clay loam complex. These soils, formed in alluvium from mixed rock sources, are deep and poorly drained, are found on terraces and basin rims (McElhiney 1992:61-62). During the late 19th and early 20th centuries, farmers and land speculators altered the drainage and characteristics of these soils by building levees, drainage ditches, and by pumping the water table. The resulting soil is rich and used today for irrigated row and field crops. The east/west portion of the project area consists of Guard clay loam and Jacktone-Urban land complex, containing clays and urban land. Mosher Slough is inside the northern end of the project area, an unnamed man-made watercourse is inside the eastern end, and an unnamed man-made watercourse is inside the southwestern corner of the project area.

The original native flora consisted of California prairie and tule marsh (Küchler 1977:22-24). California prairie is a dense to somewhat open, medium tall bunchgrass community with many forbs. Dominant plants are needlegrass and speargrass. Tule marsh is a tall, dense graminoid plant community occasionally interrupted by open water. Dominant plants are the common tule and cattails). Vegetation in the project area today consists of grasses and forbs. An orchard currently occupies the 95 per cent of the project area. Dirt roads bound the orchard.

CULTURAL SETTING

Prehistory

The Paleo-Archaic-Emergent cultural sequence developed by Frederickson (1974) is commonly used to interpret the prehistoric occupation of Central California. The sequence is broken into three broad periods: the Paleoindian Period (10,000-6000 B.C.); the three-staged Archaic Period, consisting of the Lower Archaic (6000-3000 B.C.), Middle Archaic (3000-1000 B.C.), and Upper Archaic (1000 B.C.-A.D. 500); and the Emergent Period (A.D. 500-1800).

The Paleo Period began with the first entry of people into California. These people probably subsisted mainly on big game, minimally processed plant foods, and had no trade networks. The Archaic period is characterized by increased use of plant foods, elaboration of burial and grave goods, and increasingly complex trade networks (Bennyhoff and Frederickson 1994, Moratto 1984). The Emergent Period is marked by the introduction of the bow and arrow, the ascendance of wealth-linked social status, and the elaboration and expansion of trade networks, signified in part by the appearance of clam disk bead money (Moratto 1984).

The San Joaquin Valley was probably settled by native Californians between 12,000 to 6,000 years ago. The San Joaquin Valley has had many population movements and waves of cultural influence from neighboring regions; it was probably first occupied at the end of the Pleistocene, approximately 11,500 to 7,500 years ago, as evidenced by core and flake tools (Moratto 1984:214-5). Hokan speakers may have been the early occupants of the San Joaquin Valley, eventually displaced by migrating Penutian speakers (ancestral Yokuts) coming from areas outside California. The Penutians most likely entered the San Joaquin Valley in several minor waves, slowly replacing the original Hokan speakers, causing them to migrate to the periphery of the valley (Elsasser 1978:41; Shipley 1978:81). By about A.D. 300-500, the Penutian settlement of the San Joaquin Valley was complete. At the time of European contact, the study area was within the territory of the Northern Valley Yokuts. The population of the 18th century Valley Yokuts is estimated at approximately 40,000, making them the largest ethnic group in precontact California (Moratto 1984:173).

Ethnography

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Ethnography

Ethnographically, the project area may have been the territory of the Plains Miwok or the Northern Valley Yokuts. According to Wallace (1978), the location belonged to the Plains Miwok; Levy (1978) depicts the location of the project area in Northern Valley Yokuts territory. Bennyhoff (1977) places the location of the project area on the boundary of the two groups. The ethnographic affiliation of this region is a subject of controversy (Wallace 1978:462).

Northern Valley Yokuts territory extended from a line midway between the Mokelumne River and the Calaveras River south to near where the San Joaquin River makes a big bend toward the east (Wallace 1978:462). The western limit has been identified as the eastern side of the Coast Range (Milliken 1994) while the eastern limit extended to the juncture of the San Joaquin Plain and the foothills of the Sierra Nevada (Wallace 1978:462, 466). Yokuts settlements were typically placed on low mounds near the banks of large watercourses like the San Joaquin River. This elevated position helped keep the inhabitants, their houses and possessions above the spring flood waters. The abundant riverine environment allowed a sedentary lifestyle and influenced succeeding generations to remain at the same sites (Wallace 1978:466).

Plains Miwok territory covered both banks of the Cosumnes and Mokelumne rivers, and included both banks of the Sacramento River from approximately Rio Vista in the south, reaching almost to Sacramento in the north (Levy 1978:398). The foothills of the Sierra formed the eastern boundary (Bennyhoff 1977:165). Linguistically, the Plains Miwok were part of the Eastern group of the two subdivisions of Miwokan speakers (Levy 1978:398, 399). Plains Miwok settlements were located along the banks of the Sacramento, Cosumnes, and San Joaquin rivers and their tributaries. Dwellings were circular thatched structure, with some underground structures belonging to wealthier individuals (Levy 1978:408-409).

History

Stockton History. Stockton found its start as a supplier of goods to the thousands of miners who flocked to the Sierra Nevada gold fields during the California Gold Rush of 1849. Captain Charles M. Weber recognized early that the city would become profitable as a supply center for gold miners and purchased the land that would become Stockton from William Gulnac in 1845. Originally known as Tuleberg, the town's name was changed by Weber to Stockton in 1849 in honor of Commodore Robert F. Stockton (Hoover et al. 1990:350).

With the opening of the southern mines, Stockton grew rapidly in importance and size, and soon became a flourishing trade center (Marschner 2000). Miners made their way to Stockton by boat up the San Joaquin River or over the Livermore Pass. Commerce soon grew and freighting and staging activities developed along with the cattle and agriculture industries. With the establishment of churches and schools, Stockton became a permanent settlement. In 1849, 1,000 people lived in Stockton. In 1850 Stockton was incorporated and also became the county seat (Hoover et al. 1990:350). In 1851, Stockton, which consisted primarily of tents and frame buildings, was nearly destroyed by fire. Subsequent fires in 1856 and 1862 resulted in the need for more permanent structures, and stone and brick establishments were built in the commercial district, including a new city hall that was erected in 1852 (Costello and Marvin 1999:13-14).

In the 1860s the city began making civic improvements that included road construction, street improvements, and sewer works in addition to more churches, schools, and three volunteer fire companies. By the mid 1860s residential neighborhoods were also being developed. In the 1880s and 1890s Stockton became more industrialized. Grain mills and warehouses were constructed, along with manufacturing plants and lumber yards, near the Stockton Channels. More residential housing was developed for the growing population (Costello and Marvin 1999:14-15).

Beginning in 1850 Stockton served as a river landing, with the paddle-wheel steamers the *Delta King* and the *Delta Queen* navigating the San Joaquin River from 1850 to 1938. The first inland seaport in California opened in Stockton in 1933 and soon Stockton was known for its boat building industry. Local shipyards were active during World War II filling government contracts; by 1943 fifty firms were supplying the wartime effort. The late 1940s saw a growth of residential and commercial areas to the north of Stockton and by the 1970s the population had almost quadrupled (Hillman and Covello 1985:5-9).

Today, with a population of 260,000, Stockton remains the focal point for the agribusiness of the San Joaquin Valley. The rich farmland of the San Joaquin/Sacramento River Delta supports varied agriculture, growing potatoes, corn, sunflowers, tomatoes, asparagus, and more recently, wine grapes. Stockton is a major transportation hub and a popular water recreation area that has over 1,000 miles of waterways for boating and water sports (City of Stockton 2003).

Delta History. In 1850, Congress passed the Swamp and Overflow Land Act which gave all states any unsold federal land that was either swamp or subject to overflowing. Under the act, states were to ensure that the lands would be drained, reclaimed, and used for agricultural purposes (Anonymous 1994:5). Delta ownership was passed from the federal government to the state, and by 1855, California had passed the Reclamation District Act providing for the sale of swamp and overflow lands. By 1871, almost all of the state's swampland had been sold to private interests (Thompson and Dutra 1983).

In the years following the Gold Rush, the economy of the Stockton area shifted from mining to agriculture. In the 1860s, the number of miners in the state dropped from 83,000 to 36,000 (US Army Corps of Engineers 1990:4). Many of the miners relocated to the Delta to become farmers (Cook n.d.:20). Large number of Chinese laborers became available in 1869 when the transcontinental railroad's Chinese labor force found themselves without work (Delta Protection Commission 1994:5). They made their way to the Delta where, working with simple hand tools, they built the first levees around a number of islands (Maniery and Syda 1989:19).

The earliest levee construction was not an organized or systematic effort. The Delta's first levee may have been constructed in 1849 on Grant Island; other sources indicate that the first levee was built on Merritt Island in 1853 (Delta Protection Commission 1994:5). Initial reclamation attempts took the form of shoe string levees: low mounds of sediment atop natural levees along rivers that only served to hold back tidal waters (Thompson 1982:9). Levees around the Delta's islands were built next; some were constructed of sediment and some were constructed of peat (Thompson 1982:12). Early levees were prone to failure, as evidenced by floods at the Webb Tract in 1872-3, Bacon Island in 1873, and Bouldin Island in 1874 (Maniery and Syda 1989:19). Levee construction improved in the late 1800s, with the invention of the clamshell dredger, hydraulic dredger, and steam driven dredger. Mechanical dredgers constructed levees using sediment deeper than the shallow peat used by human labor, resulting in stronger levees (Maniery and Syda 1989:21).

By 1880, levees had been constructed around almost all land in the Delta, and by 1930, all but a few areas were being farmed (Delta Protection Commission 1994:6; Frayer, Peters, and Pywell 1989:6). Since flooding in 1907, levee maintenance and improvement has been an ongoing process, with spoils from channel dredging being used to raise and widen the levees (Dillon 1982:92). Almost all of the Delta's flood control levees have been improved over the years (Thompson 2005).

The Delta now contains over 500,000 acres of reclaimed land, interconnected by 1,000 miles of natural and man-made watercourses (Delta Protection Commission 1995:1). Agriculture dominates the Delta's economy, with over 91 per cent of the Delta zoned for agriculture (California Department of Water Resources 1986:2). Water-based recreation in the form of fishing, boating, and water-skiing has come to occupy a large part of the Delta's economy (Delta Protection Commission 1995:1).

PALEONTOLOGICAL SETTING

The project area lies in the southeastern portion of the Sacramento-San Joaquin Delta. The fertile soils of this region have an average depth of between 5 to 6 feet within and adjacent to the project area (McElhiney 1992). The sediments underlying the soil are Quaternary alluvium generally derived from the east by the erosion of the Sierra Nevada Range. This alluvium consists of Modesto Formation sediments underlain by Early Tertiary marine sediments.

Modesto Formation

The project area and much of the San Joaquin Valley lie on Late Pleistocene Modesto Formation sediments (Wagner et al. 1987). Sediments of this age and formation in the vicinity of the project area have produced significant vertebrate fossils from the Rancholabrean land mammal age (Marchand and Allwardt 1977). Common examples of Rancholabrean vertebrate fossils include ground sloth, dire wolf, saber-toothed cat, camel, bison, mammoth, horse, rodent, bird, reptile and amphibian fossils (Savage 1951; Stirton 1951; Bell et al. 2004). The Modesto Formation sediments directly underlie the soil layer within and adjacent to the project area and any fossils within them can be encountered just below the soil depth.

Undifferentiated Early Tertiary Marine Deposits

Modesto Formation sediments are underlain at great depth (hundreds of feet) by Tertiary (65-2 million years old) sediments (Wagner et al. 1987). Little is known about these marine deposits near the project area as they are deeply buried. The likelihood of encountering these deposits is very low to non-existent.

BACKGROUND RESEARCH

Cultural Resources

A records search and literature review were done to (1) identify previously recorded cultural resources and previous cultural resources studies of or adjacent to the study area, (2) assess the likelihood of unrecorded cultural resources based on archaeological, ethnographic, and historical information, and the distribution of nearby cultural resources in relation to their environmental settings, and (3) obtain information for the cultural settings portion of the report.

Records Search. A records search (File #5750L) of the project area and a ¼-mile radius was conducted on May 11, 2005, by the Central California Information Center of the California Historical Resources Information System, California State University, Stanislaus, Turlock (CCIC). The CCIC, an affiliate of the State of California Office of Historic Preservation, is the official state repository of cultural resources records and reports for San Joaquin County (Appendix A).

No cultural resources have been recorded within the project area. P-39-004529, the Atlas Tract Levee, however, is in the northern end of the project area and was recorded and evaluated subsequent to the records search (Kaptain and Gerike 2005a, 2005b) (Appendix C.) The evaluation found the levee not eligible for listing in either register due to a lack of integrity.

Three cultural resources studies have been done which included the portion of the project area on the northern side of Mosher Slough (Napton 1987; Kaptain 2002; Kelley, Huster, and Matzen 2005). The Atlas Tract Levee was identified in the current study's project area (Kelley, Huster, and Matzen 2005). Neither of the other studies identified any cultural resources in the current project area.

The following cultural resources studies have been done adjacent to the project area: Napton (1978) and Werner (1987).

LSA reviewed the following cultural resource inventories:

- *California Inventory of Historic Resources* (California Department of Parks and Recreation 1976);
- *Five Views: An Ethnic Historic Sites Survey for California* (California Office of Historic Preservation 1988);
- *California Historical* Landmarks (California Office of Historic Preservation 1996);
- *California Points of Historical Interest* (California Office of Historic Preservation 1992); and
- *Directory of Properties in the Historic Property Data* File (California Office of Historic Preservation May 2, 2005) which includes the listings of the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, and California Points of Historical Interest.

These inventories list no cultural resources within or adjacent to the project area.

Literature Review. LSA reviewed publications and maps for archaeological, historical, ethnographic, and environmental information about the project area and its vicinity.

Mosher Slough and its levees, and an unnamed watercourse and its levees, were identified in the project area on the USGS *Lodi South, Calif.*, 7.5-minute topographic quadrangle. These levees are part of the Delta levee system, listed in *Historic Engineering Landmarks of Sacramento and Northeastern California* as a significant civil engineering landmark (American Society of Civil Engineers). A third man-made watercourse is depicted on the 1910 *Castle* 15-minute topographic quadrangle, close to the southwest corner of the project.

Paleontological Resources

A fossil locality search and literature review were done to (1) identify previous surveys of known paleontological sites in and near the project area, and (2) identify the formations and types of fossils that may contain significant fossil resources within the project area.

Fossil Locality Search. An online fossil locality search was conducted by LSA paleontologist Benjamin Matzen using resources provided by the Berkeley Natural History Museums on March 28, 2005 using the Berkeley Natural History Museum (BNHM) online database, specifically data from the University of California Museum of Paleontology (UCMP), Berkeley. The purpose of this search was to (1) identify previous studies and known paleontological sites within and near the project area; and (2) identify the formations and types of fossils that might be expected within and adjacent to the project area based on the existing geological and paleontological data.

There are no fossil localities within or directly adjacent to the project area; two vertebrate fossil localities lie within five miles of the project area. These vertebrate fossils are from the Late Pleistocene sediments of the Rancholabrean land mammal age (between approximately 10 to 30,000 years old), from the same formation as the sediments that underlie the project area. The fossils from these localities are horse (*Equus sp.*) and mammoth (*Mammuthus sp.*), though these fossils represent only two examples of the various vertebrate fossil taxa commonly found in these sediments (Savage 1951; Stirton 1951; Bell et al. 2004). Rancholabrean fossils are very common within Modesto Formation sediments throughout the San Joaquin Valley (Berkeley Natural History Museum 2005).

Literature Review. LSA reviewed paleontological and geological literature relevant to the project area and its vicinity. This literature was reviewed to (1) identify locations where paleontological resources are known to occur; and (2) identify the geological formations and paleontological resources that may occur in the project area. See References Consulted for all literature reviewed.

CONSULTATION

On May 9, 2005, LSA sent a letter and maps depicting the project area to the Native American Heritage Commission (NAHC) in Sacramento requesting a review of their sacred lands file for any Native American cultural resources that might be affected by the proposed project. Debbie Pilas-Treadway, NAHC Environmental Specialist III, responded in a faxed letter dated May 13, 2005, that a review of the sacred lands file did not indicate the presence of Native American cultural resources "in the immediate project area" (Appendix B).

On May 9, 2005, LSA sent a letter and maps depicting the project area to the Haggin Museum, asking if the museum had any concerns regarding the proposed project area (Appendix B). No response to the letter was received within three weeks and a follow-up telephone call was made. On June 1, 2005, LSA left a message on museum director Todd Ruhstaller's voice mail, requesting that he call LSA with any concerns. No response has been received to date.

On May 24, 2005, LSA sent a letter and maps depicting the project area to the San Joaquin County Historical Society, asking for any concerns regarding the proposed project area (Appendix B). No response to the letter was received within ten days and a follow-up telephone call was made. On June 3, 2005, LSA left a message on an answering machine for museum director Mike Bennett, requesting that he call LSA with any concerns. No response has been received to date.

FIELD SURVEY

LSA archaeologist Neal Kaptain did a pedestrian field survey of the project area on May 3, 2005. The pedestrian survey was conducted using 10-meter wide zig-zag transects. Visibility of the ground's surface was excellent, consisting almost entirely of bare ground. The field survey was documented with maps, field notes, and photographs.

A paleontological field survey was not conducted.

STUDY RESULTS

Cultural Resources

This study identified the following cultural resources in the project area:

- Mosher Slough and its levees. (The northern levee is P-39-004529, the Atlas Tract Levee.)
- An unnamed watercourse and its levees in the eastern end of the project area.
- A concrete irrigation ditch in the eastern end of the project area.

Paleontological Resources

Late Pleistocene Modesto Formation deposits within and directly adjacent to the project area have a high potential to contain significant fossil resources as shown by two vertebrate fossil localities near the project area that were discovered in similarly aged geologic formations as the Modesto Formation.

RECOMMENDATIONS

This study identified recorded and unrecorded cultural resources within and adjacent to the project area and the possibility of paleontological resources within the project area. Recommendations for the treatment of such resources are presented below.

Project personnel should not collect or move any archaeological or paleontological materials, or human remains and associated materials. Fill soils used for construction purposes should not contain archaeological or paleontological materials.

Cultural Resources

The Trinity Parkway Project will alter the integrity of setting, workmanship, and feeling of the following cultural resources where directly impacted by the project:

- Mosher Slough and its levees

  A National and California registers evaluation was done of the northern levee of Mosher Slough, the Atlas Tract Levee (P-39-004529) (Kaptain and Gerike 2005a, 2005b). The evaluation found the levee not eligible for listing in either register. If the State Historic Preservation Officer (SHPO) concurs with the evaluation, no further study is necessary. If, however, the SHPO determines the levee eligible for listing in the National Register, and therefore eligible for listing in the California Register, it will be necessary to avoid or mitigate adverse effects to the levee.

- LSA recommends that that the southern levee of Mosher Slough be recorded on Department of Parks and Recreation (DPR) 523 forms. If the levee cannot be avoided by adverse effects, it should be evaluated for eligibility listing in the National and California registers. If the levee is eligible for listing in the National Register, and therefore eligible for the California Register, it will be necessary to avoid or mitigate adverse effects to the levee. If the levee is not eligible for listing in either register, no further study is necessary.

- An unnamed watercourse and its levees in the eastern end of the project area.

  The recommendations for this resource are the same as for the southern levee of Mosher Slough (see above).

- A concrete irrigation ditch in the eastern end of the project area.

  The recommendations for this resource are the same as for the southern levee of Mosher Slough (see above).

Accidental Discovery. If deposits of prehistoric or historical archaeological materials are encountered during project activities, all work within 25 feet of the discovery should be redirected and a qualified archaeologist assesses the situation and provides recommendations. It is recommended that adverse effects to such resources be avoided by project activities. If such deposits cannot be avoided, they should be evaluated for their significance in accordance with the California Register of Historical Resources. If the deposits are not eligible, avoidance is not necessary. If the deposits are eligible, they will need to be avoided by adverse effects or such effects must be mitigated. Upon completion of the archaeological assessment, the archaeologist should prepare a report documenting methods and results, and provide recommendations for the treatment of the archaeological materials discovered. The report should be submitted to the project proponent, appropriate City of Stockton agencies, and the Central California Information Center.

Prehistoric materials can include flaked-stone tools (e.g. projectile points, knives, choppers) or obsidian, chert, or quartzite toolmaking debris; culturally darkened soil (i.e., midden soil often containing heat-affected rock, ash and charcoal, shellfish remains, faunal bones, and cultural materials); and bone tools and stone milling equipment (e.g., mortars, pestles, handstones). Prehistoric archaeological sites often contain human remains. Historical materials can include wood, stone, concrete, or adobe footings, walls and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, and other refuse.

Human Remains

If human remains are encountered, work within 25 feet of the discovery should be redirected and the County Coroner notified immediately. At the same time, an archaeologist should be contacted to assess the situation. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Upon completion of the assessment, the archaeologist should prepare a report documenting the methods and results, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report should be submitted to the project proponent, appropriate City of Stockton agencies, and the Central California Information Center. It is anticipated that the implementation of this recommendation will reduce the severity of this potential impact to a less-than-significant level.

Paleontological Resources

No paleontological resources (fossils) were identified within or adjacent to the project area by this study. The soils within the project area reported to be at least 5 feet in thickness (McElhiney 1992) and there is a low potential of encountering paleontological resources within them. If paleontological resources are encountered within five feet of the ground surface, however, they should be handled according to the accidental discovery section below.

There is a possibility of encountering significant paleontological resources in the Modesto Formation sediments of the project area that directly underlie the soils. Paleontological monitoring is recommended if the proposed project plans involve ground disturbance at a depth greater than five feet. Prior to ground disturbing activities, a qualified paleontologist should develop a monitoring plan that takes into account the specific details of construction plans as well as information from any available paleontological, geological, and geotechnical studies, as well as limited subsurface investigations.

Accidental Discovery. If paleontological resources are encountered during project activities, all work within 25 feet of the discovery should be redirected until a qualified paleontologist has evaluated the discoveries, prepared a fossil locality form documenting the discovery and made recommendations regarding the treatment of the resources. If the paleontological resources are found to be significant, adverse effects to such resources should be avoided by project activities. If project activities cannot avoid the resources, the adverse effects should be mitigated. At a minimum, mitigation should include data recovery and analysis, preparation of a final report, and the accession of any fossil material recovered to a paleontological repository, such as the UCMP. Upon completion of project activities, a final report that documents the methods and findings of the mitigation should be prepared and submitted to the project proponent, a suitable paleontological repository, and appropriate City of Stockton agencies.

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APPENDIX A

RECORDS SEARCH RESULTS

LSA | LSA ASSOCIATES, INC
157 PARK PLACE
PT. RICHMOND, CALIFORNIA 94801
510.236.6810 TEL
510.236.3480 FAX
BERKELEY
FT. COLLINS
IRVINE
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

May 9, 2005

Ms. Elizabeth Greathouse, Coordinator
Central California Information Center
Department of Anthropology
California State University, Stanislaus
801 W. Monte Vista Avenue
Turlock, California 95382

Subject: Trinity Parkway Project, Stockton, San Joaquin County, California
LSA Project AGS 434

Dear Information Center:

Please conduct a records search of the above referenced project area and a ¼-mile radius as depicted on the accompanying USGS *Terminous, Calif.* and *Lodi South, Calif.* topographic quadrangles. Please provide copies of all reports and site records within the records search area and the Historic Properties Data listings that are appropriate to our geographic location. Note: please do not provide copies of reports and site records that are part of CCIC File #5592L, a records search for an adjacent project you did for us on January 24, 2005.

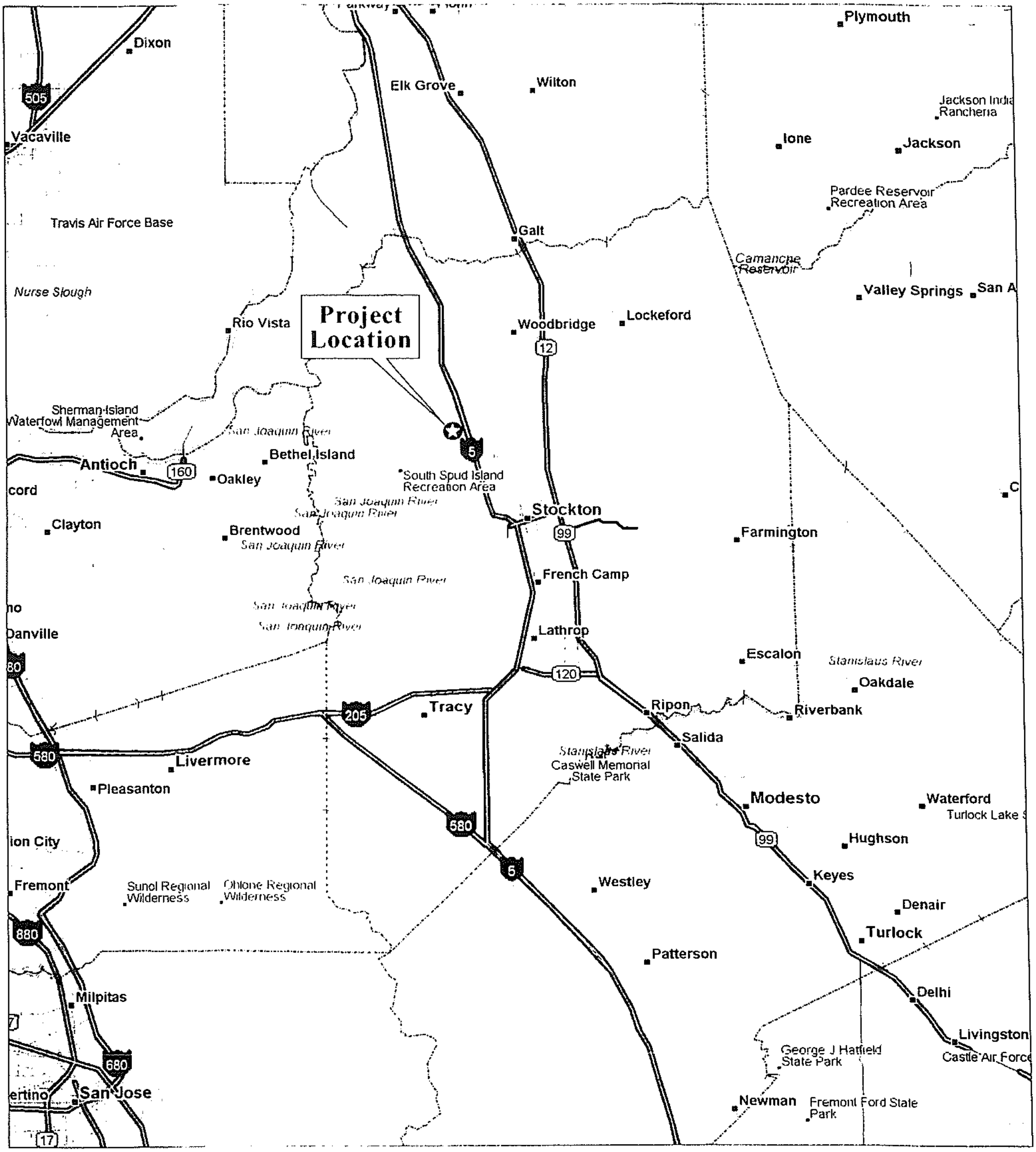
If you have any questions or concerns, you can contact me at the address and phone number above, or via e-mail at (neal.kaptain@lsa-assoc.com). I look forward to hearing from you. Thank you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager



LSA

FIGURE 1

Trinity Parkway
Stockton, San Joaquin County, California

Project Location

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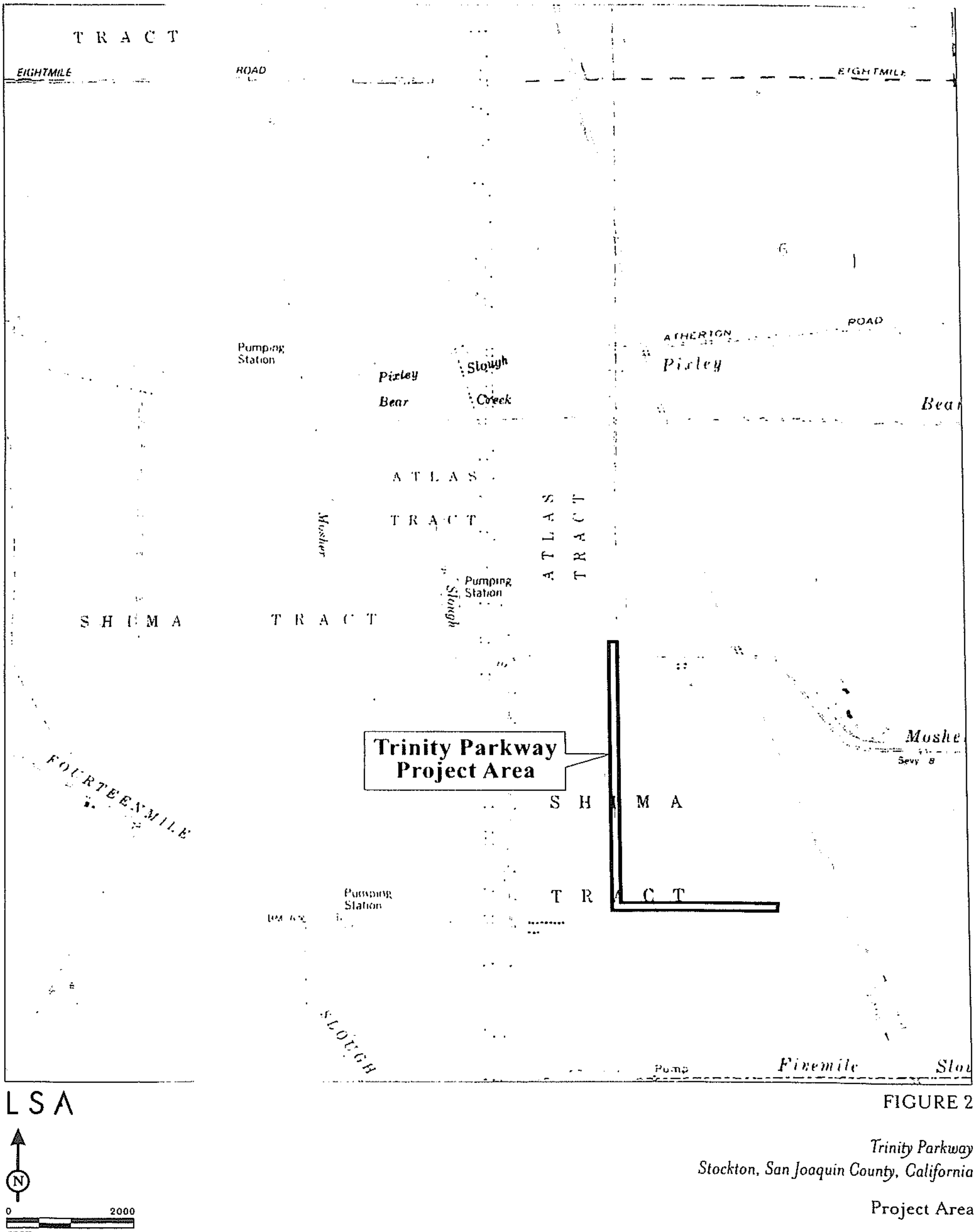
MILES

SOURCE: ©2002 DeLORME. STREET ATLAS USA® 2003



LSA

FIGURE 2

Trinity Parkway
Stockton, San Joaquin County, California

Project Area

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

CENTRAL CALIFORNIA INFORMATION CENTER

California Historical Resources Information System

Department of Anthropology - California State University, Stanislaus
801 W. Monte Vista Avenue, Turlock, California 95382
(209) 667-3307 - FAX (209) 667-3324

Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus & Tuolumne Counties

Date: May 11, 2005

Neal Kaptain, Cultural Resources Manager
LSA Associates, Incorporated
157 Park Place
Point Richmond, CA 94801

CCIC File #: 5750L
Project: LSA # AGS 434
Trinity Parkway Project,
San Joaquin Co., CA

Dear Mr. Kaptain,

We have conducted a records search as per your request for the above-referenced project area located on the Lodi South USGS 7.5-minute quadrangle map in San Joaquin County.

Search of our files includes review of our maps for the specific project area and a one-quarter-mile radius of the project area (as specified by the client), and review of the National Register of Historic Places, the California Register of Historical Resources, the *California Inventory of Historic Resources* (1976), the *California Historical Landmarks* (1996), and the *California Points of Historical Interest* listing (May 1992 and updates), the Historic Property Data File (Office of Historic Preservation current computer list dated 5/02/2005), the CALTRANS State and Local Bridge Survey (1989 and updates), the *Survey of Surveys* (1989), GLO Plats, and other pertinent historic data available at the CCIC for each specific county.

The following details the results of the records search:

Prehistoric or historic resources within the project area:

Prehistoric resources: None have been reported to the CCIC.

Historic archaeological resources or historic properties: None have been reported to the CCIC.

Prehistoric or historic resources within a one-quarter-mile radius of the project area:

Prehistoric resources: None have been reported to the CCIC.

Historic archaeological resources or historic properties: None have been reported to the CCIC. But see other historic information below:

Other historic map data; copies attached:

(1) The 1910 (1942 reprint) edition of the Castle, CA USGS quadrangle map (1:31680 scale) appears to show a levee and possibly two canals or channelized sloughs nearby.

(2) The following GLO Plat maps were consulted; no cultural references or features were noted for the project or search radius:

T2N/R5E	Sheet #41-089	1853-1879
T2N/R6E	Sheet #41-090	1853-1865

Resources known to have value to local cultural groups:

None have been formally reported to the CCIC.

Previous investigations within the project:

Two have been reported that *may* overlap a portion of the project area:

CCIC # SJ-	Author/Date	
756	Napton (1978)	Copy of report attached as requested
781	Napton (1987)	Copy sent previously with record search #5592L

There is also a broad overview of the Sacramento-San Joaquin Delta area that may be of use to you; I think you received a page from it with record search #5592L, but here I have attached a full copy of the report—except for the "base maps" (quad maps) that were not received by the CCIC:

SJ-816 Owens (1991)

Previous investigations within a one-quarter-mile radius of the project Area:

One reported to the CCIC; copy of report sent previously with record search #5592L:

CCIC #	Author/Date
SJ-845	Werner (1987)

Recommendations/Comments: Please be advised that a historical resource is defined as a building, structure, object, prehistoric or historic archaeological site, or district possessing physical evidence of human activities over 45 years old. There may be unidentified features 45 years or older within your project that are considered as historical resources requiring further study and evaluation by a qualified professional of the appropriate discipline.

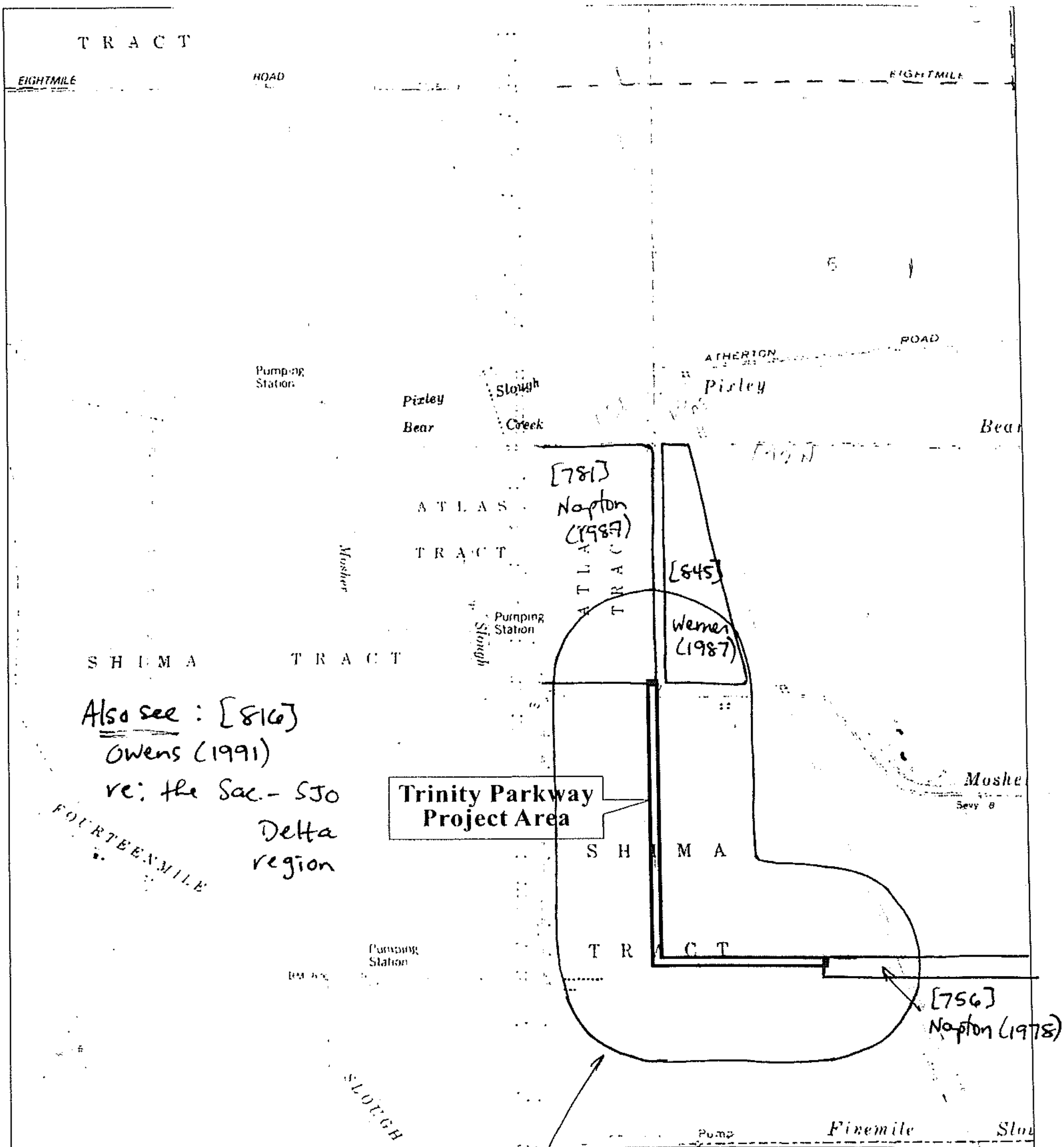
In accordance with State law, if any historical resources are found during construction, work is to stop and the lead agency and a qualified professional are to be consulted to determine the importance and appropriate treatment of the find.

We understand that you will be conducting an archaeological survey of the proposed project that is the subject of this records search. We look forward to receiving one copy of your report of findings which should include two copies each complete site record for all historical resources discovered as a result of the survey.

We thank you for contacting this office regarding historical resource preservation. Please let us know when we can be of further service. Please sign and return the attached Agreement of Confidentiality form. Billing is attached, payable within 60 days of receipt of the invoice.

Sincerely,

Robin Hards, Assistant Research Technician
Central California Information Center
California Historical Resources Information System



LSA

CCIC#5750L

1/4-mile search radius

FIGURE 2

Trinity Parkway
Stockton, San Joaquin County, California

Project Area

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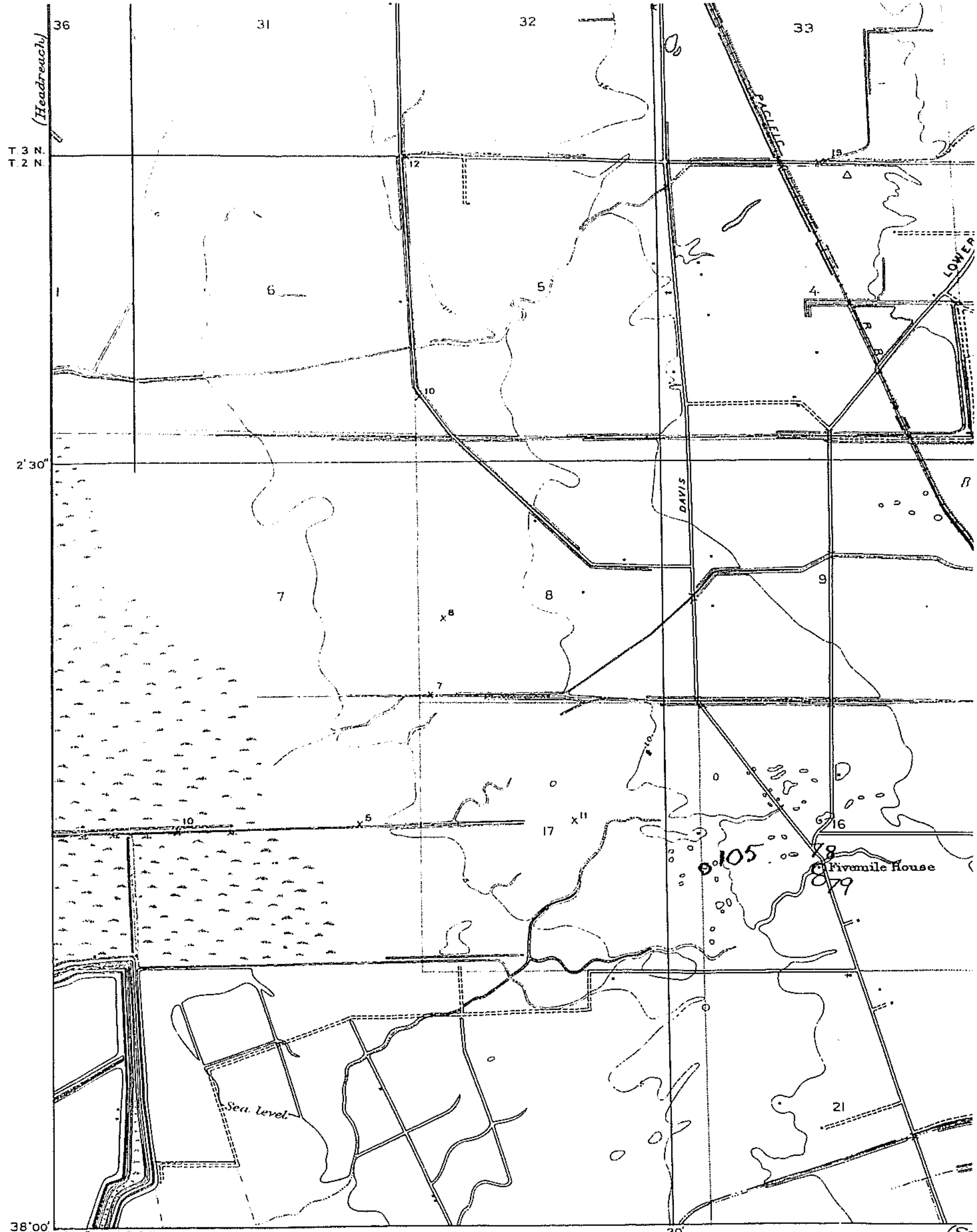
FEET

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968/PR 1976



(Holt)

R. B. Marshall, Chief Geographer.
T. G. Gerdine, Geographer in charge.
Topography by B. A. Jenkins, W. R. McKean, R. M. La Follette, and Bayard Knock.
Control by B. A. Jenkins, C. L. Nelson, C. H. Semper, and A. H. Sylvester.
Surveyed in 1907-1908.

SURVEYED IN COOPERATION WITH THE STATE OF CALIFORNIA.

17½°
TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION 1907.

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Datum is

APPENDIX B

CONSULTATION LETTERS

LSA | LSA ASSOCIATES, INC.
157 PARK PLACE
PT. RICHMOND, CALIFORNIA 94801
510.236.6810 TEL
510.236.3480 FAX
BERKELEY
FT. COLLINS
IRVINE
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

May 9, 2005

Larry Myers
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

Subject: Trinity Parkway Project, Stockton, San Joaquin County, California
LSA Project #AGS434

Dear Mr. Myers:

The A.G. Spanos Companies are proposing to extend the proposed Trinity Parkway south to meet a proposed westerly extension of Hammer Lane, in Stockton, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. Please review the sacred lands files for any Native American cultural resources that may be within or adjacent to the project area. The project area is in unsectioned lands west of Interstate 5, in northwestern Stockton, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, 7.5-minute topographic maps.

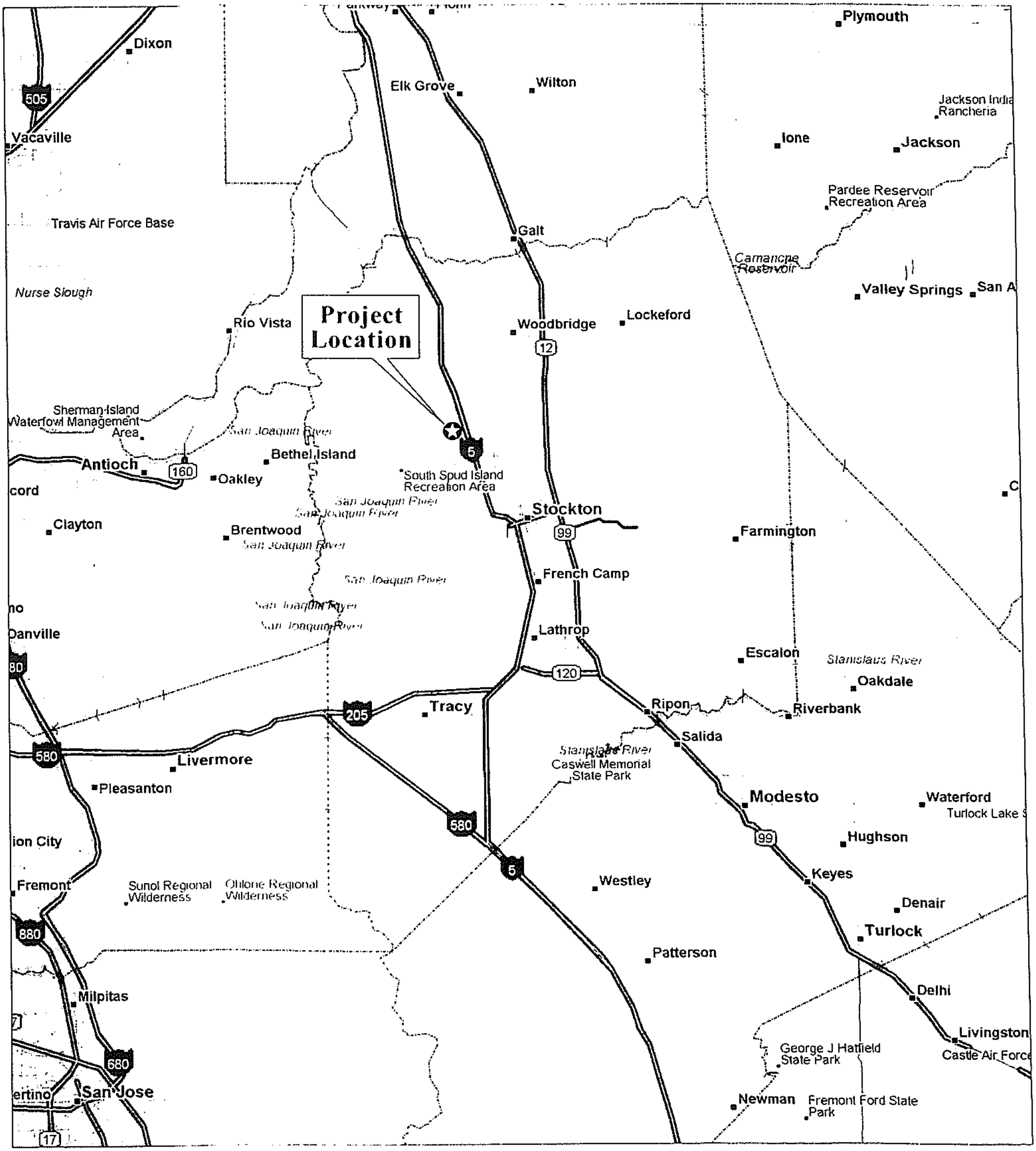
We also request a list of Native American individuals and organizations who may have knowledge of cultural resources in the project area. Please notify us if you have any information or concerns. Please contact me at the address and phone number above or via e-mail (neal.kaptain@lsa-assoc.com). We look forward to hearing from you. Thank you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager



LSA

FIGURE 1

Trinity Parkway
Stockton, San Joaquin County, California

Project Location

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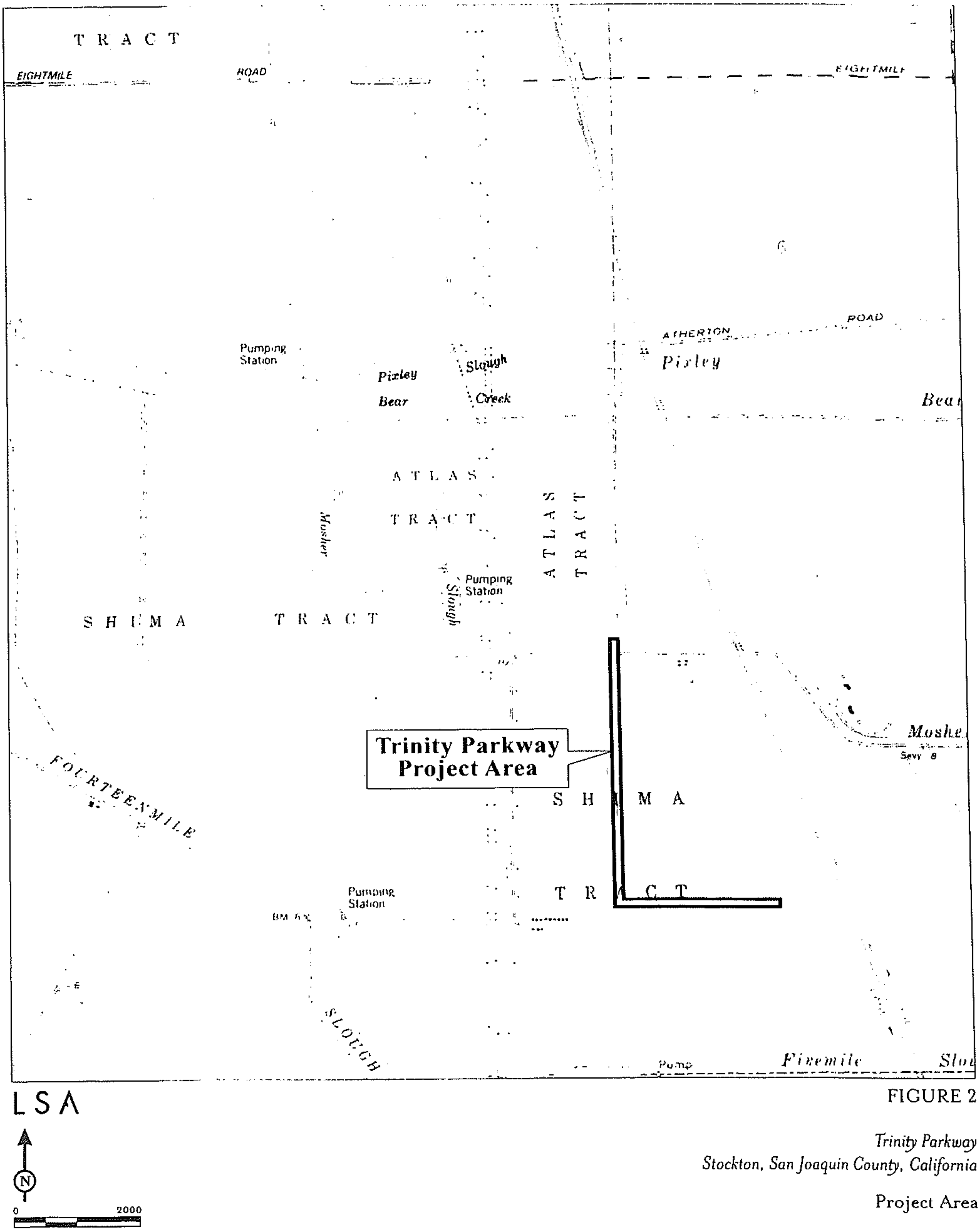
MILES

SOURCE: ©2002 DeLORME. STREET ATLAS USA® 2003



LSA

FIGURE 2

Trinity Parkway
Stockton, San Joaquin County, California

Project Area

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

STATE OF CALIFORNIA ARNOLD SCHWARZENEGGER, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov

May 13, 2005

Neal Kaptain
Cultural Resources Manager
LSA

Sent by Fax: 510-236-3480
No. of Pages: 3

RE: Proposed West El Camino Avenue Bridge Replacement project, Sacramento County.
Trinity Parkway project, San Joaquin County.

Dear Mr. Kaptain:

A record search of the sacred lands file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend other with specific knowledge. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received

If you receive notification of change of addresses and phone numbers from any these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,

Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
Sacramento County
May 13, 2005

Rose Enos	
15310 Bancroft Road	Maidu
Auburn , CA 95603	Washoe
(530) 878-2378	
Joe Marine	
1025 35th Avenue, Apt 9	Maidu
Sacramento , CA 95822	
916 429-7307	
Shingle Springs Band of Miwok Indians	
Jeff Murray, Cultural Resources Manager	
P.O. Box 1340	Miwok
Shingle , CA 95682	Maidu
shingle_springs_rancheria@ho	
(530) 676-8010	
(530) 676-8033 Fax	
Shingle Springs Band of Miwok Indians	
Nicholas Fonseca, Chairperson	
P.O. Box 1340	Miwok
Shingle , CA 95682	Maidu
shingle_springs_rancheria@ho	
(530) 676-8010	
(530) 676-8033 Fax	
United Auburn Indian Community of the Auburn	
Jessica Tavares, Chairperson	
575 Menlo Drive, Suite 2	Maidu
Rocklin , CA 95765	Miwok
916 663-3720	
916 663-3727 - Fax	

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resource assessment for the proposed West El Camino Avenue Bridge Replacement project, Sacramento County.

Native American Contacts
San Joaquin County
May 13, 2005

Katherine Erolinda Perez
1234 Luna Lane
Stockton , CA 95206
canutes@comcast.net
(209) 462-2680

Ohlone/Costanoan
Northern Valley Yokuts
Bay Miwok

Ione Band of Miwok Indians
Glen Villa, Jr. Cultural Committee Chairperson
415 Oak Street
Ione , CA 95640
gvilla@cwo.com
916-322-1617 w
209-274-5535 FAX

Miwok

Ione Band of Miwok Indians
Pamela Baumgartner, Tribal Administrator
PO Box 1190
Ione , CA 95640
admin@ionemiwok.org
(209) 274-6753
(209) 274-6636 Fax

Miwok

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resource assessment for the proposed Trinity Parkway project, San Joaquin County.

LSA

LSA ASSOCIATES, INC
157 PARK PLACE
PT RICHMOND, CALIFORNIA 94801

510.236.6810 TEL
510.236.3480 FAX

BERKELEY
FT. COLLINS
IRVINE

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

May 24, 2005

San Joaquin County Historical Society
11763 North Micke Grove Road
Lodi, California 95240

Subject: Trinity Parkway Project, Stockton, San Joaquin County, California
LSA Project AGS434

Dear Historical Society:

The A.G. Spanos Companies are proposing to extend the proposed Trinity Parkway south to meet a proposed westerly extension of Hammer Lane, in Stockton, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. The project area is in unsectioned lands west of Interstate 5, in northwestern Stockton, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, 7.5-minute topographic maps.

Please notify us if your organization has any concerns about historical sites in the project area. This is not a request for research, it is solely a request for public input for any concerns that the museum may have. Please contact us at the address and phone number above or via e-mail at <neal.kaptain@lsa-assoc.com>. We look forward to hearing from you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager

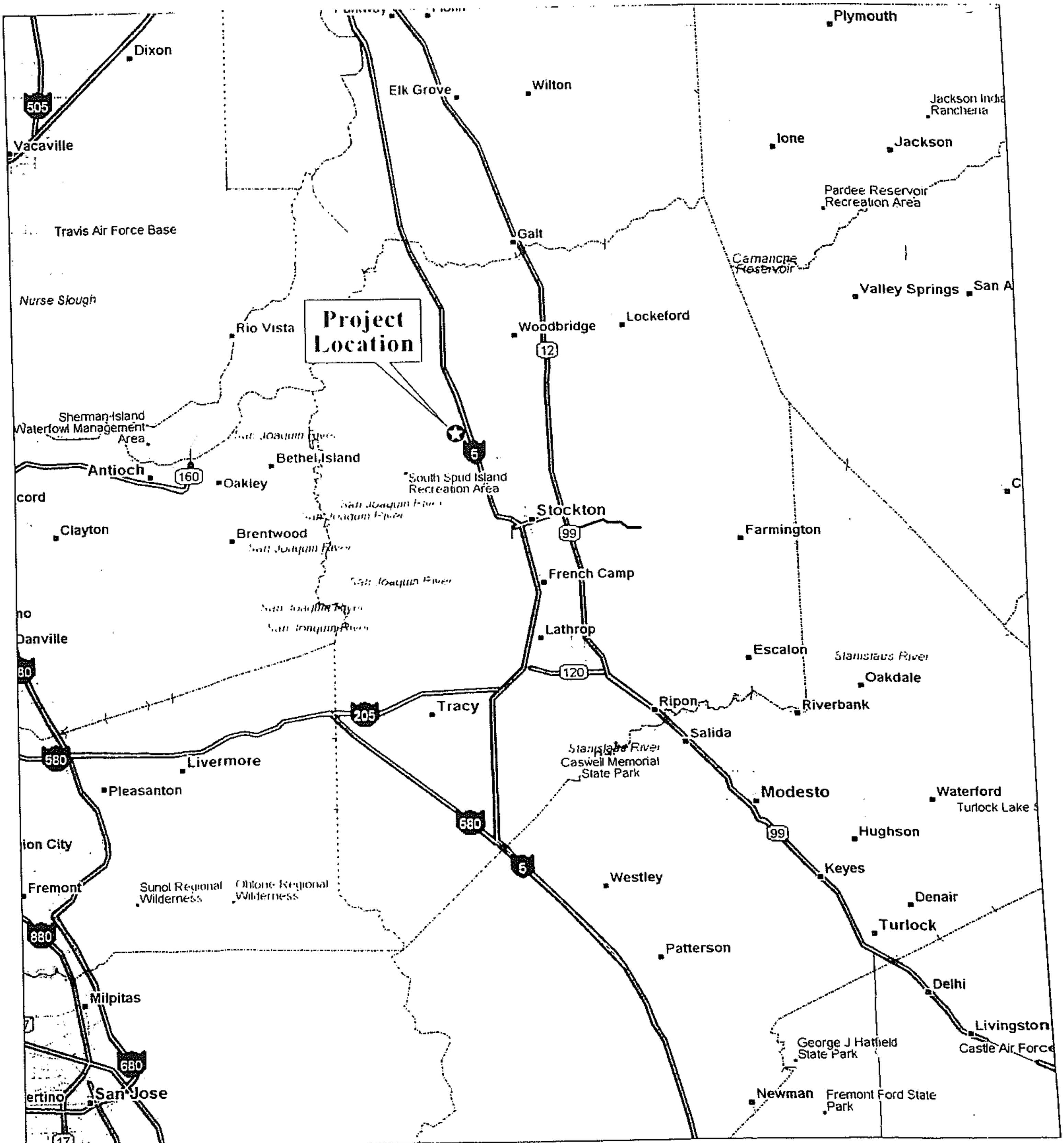


FIGURE 1

LSA

N

0 10 MILES

Trinity Parkway
Stockton, San Joaquin County, California

Project Location

SOURCE: ©2002 DeLORME. STREET ATLAS USA® 2003.

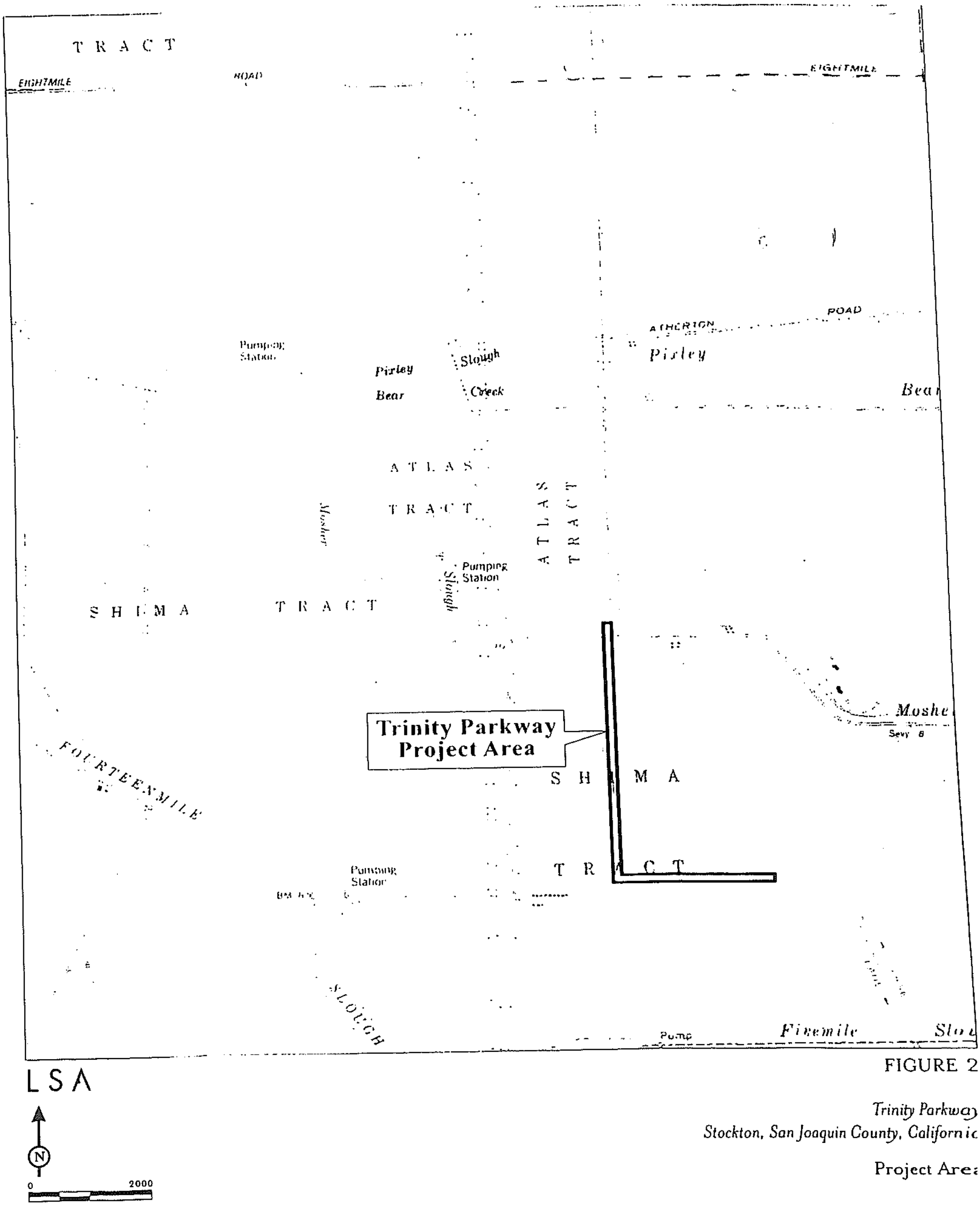


FIGURE 2

LSA

Trinity Parkway
Stockton, San Joaquin County, California

Project Area

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

LSA

LSA ASSOCIATES, INC
157 PARK PLACE
PT. RICHMOND, CALIFORNIA 94801

510.236.6810 TEL
510.236.3480 FAX

BERKELEY
FT. COLLINS
IRVINE

RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

May 9, 2005

Todd Ruhstaller, Director
The Haggin Museum
Victory Park, 1201 North Pershing Avenue
Stockton, California 95203

Subject: Trinity Parkway Project, Stockton, San Joaquin County, California
LSA Project AGS434

Dear Mr. Ruhstaller:

The A.G. Spanos Companies are proposing to extend the proposed Trinity Parkway south to meet a proposed westerly extension of Hammer Lane, in Stockton, California. LSA Associates, Inc., is conducting a study to determine if the project might affect cultural resources. The project area is in unsectioned lands west of Interstate 5, in northwestern Stockton, as depicted on the accompanying portions of the USGS *Terminous, Calif.*, and *Lodi South, Calif.*, 7.5-minute topographic maps.

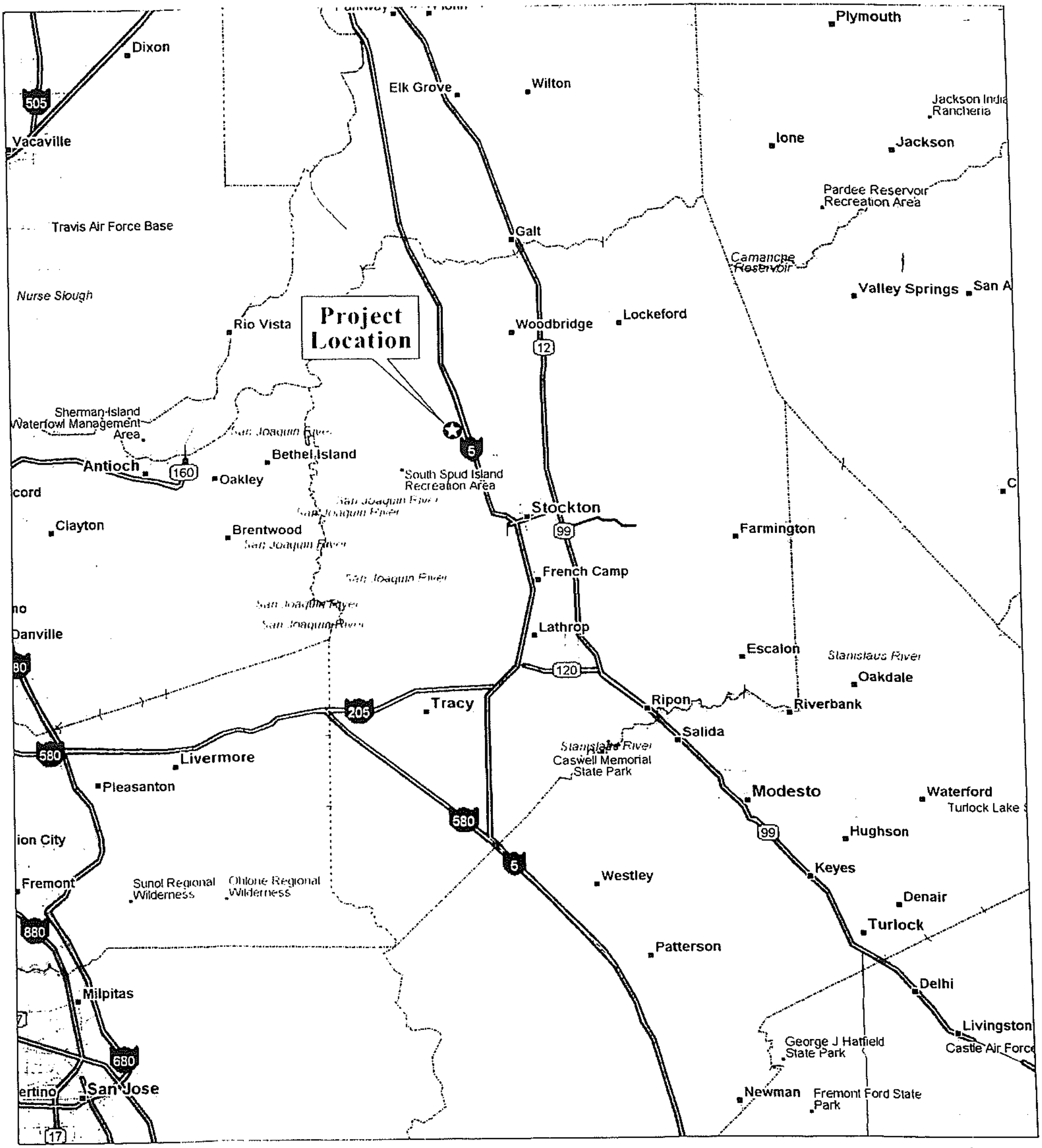
Please notify us if your organization has any concerns about historical sites in the project area. This is not a request for research, it is solely a request for public input for any concerns that the museum may have. Please contact us at the address and phone number above or via e-mail (neal.kaptain@lsa-assoc.com). We look forward to hearing from you.

Sincerely,

LSA ASSOCIATES, INC.

Neal Kaptain

Neal Kaptain
Cultural Resources Manager



LSA

FIGURE 1

Trinity Parkway
Stockton, San Joaquin County, California

Project Location

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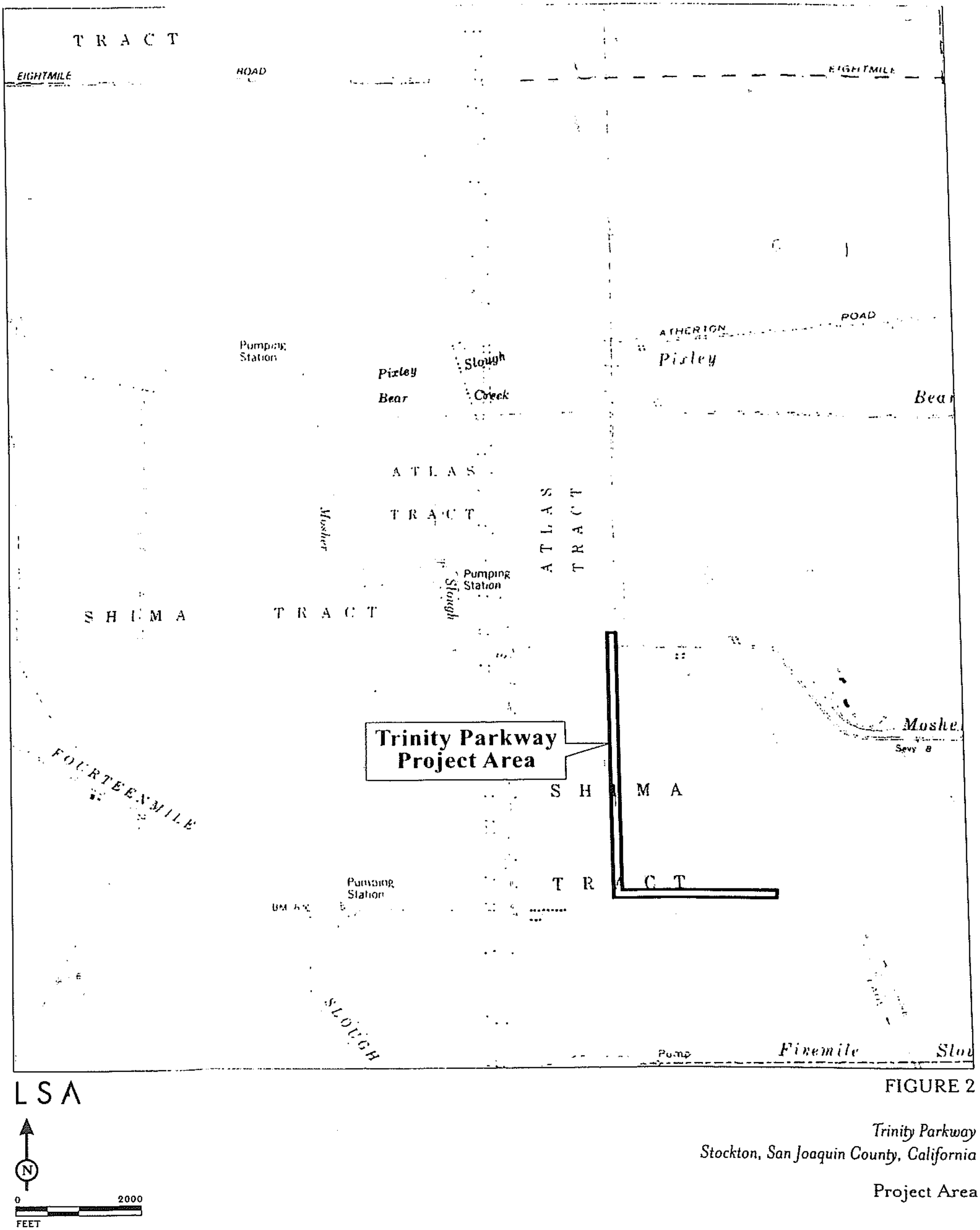
MILES

SOURCE: ©2002 DeLORME. STREET ATLAS USA® 2003.



LSA

FIGURE 2

Trinity Parkway
Stockton, San Joaquin County, California

Project Area

SOURCE: USGS 7.5' QUADS - TERMINOUS 1978, LODI SOUTH 1968 PR 1976

APPENDIX C

DEPARTMENT OF PARKS AND RECREATION 523 FORMS

FOR P-39-004529, THE ATLAS TRACT LEVEE

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary # P-39-004529
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code ______ **Reviewer** __________________ **Date**

Resource Name: Atlas Tract Levee

P1. Other Identifier: Reclamation District 2126

P2. Location (unrestricted):
- **a. County:** San Joaquin
- **b. USGS 7.5' Quads:** *Terminous, Calif.* **Date:** 1978, minor revision 1993
  Lodi South, Calif. **Date:** 1968, photorevised 1976
  Township 2 North; Range 5 East; unsectioned lands; Mount Diablo Baseline & Meridian
- **c. Address:** N/A **City** Stockton **Zip**
- **d. UTM:** NAD83; Zone 10:
  641,653 **mE** / 4,211,772 **mN**
  641,623 **mE** / 4,211,087 **mN**
  642,931 **mE** / 4,211,813 **mN**
  642,976 **mE** / 4,210,743 **mN**
- **e. Other Locational Data:** N/A

P3a. Description: This approximately 3-mile-long earthen levee encloses the approximately 360-acre Atlas Tract, a reclaimed parcel of land in northern San Joaquin County, adjacent to the northwest boundary of Stockton. The levee varies in width from 60 to 100 feet wide at its base and from 10 to 20 feet wide at its top. It is approximately 18 feet high on its water side and approximately 8 feet high on its land side. A dirt road is on the top of the levee. The watercourse on the north side of Atlas Tract is channelized Bear Creek; the watercourses on the south and west sides are completely man-made Mosher Slough; a now-dry channel bounds the levee on the east side.

The levee is part of the Delta levee system. The Delta levee system is listed in *Historic Civil Engineering Landmarks of Sacramento and Northeastern California* (American Society of Civil Engineers 1976:26).

P3b. Resource Attributes: HP20. Canal/aqueduct.

P4. Resources Present: ■ Structure

P5a.

P5b. Description of Photo: Camera pointed east, along Mosher Slough.

P6. Date Constructed and Source: 1905
Thompson, John, and Edward Dutra 1983 *The Tule Breakers*. University of the Pacific, Stockton, California.

P7. Owner and Address:
The A.G. Spanos Companies
10100 Trinity Parkway
Stockton, California 95219

P8. Recorded by:
Neal Kaptain
LSA Associates, Inc.
157 Park Place
Point Richmond, California 94801

P9. Date recorded: May 25, 2005

P10. Survey Type: Intensive pedestrian.

P11. Report citation:
See references cited on page 6.

Attachments: Building, Structure, and Object Record, Continuation Sheets, Location Map.

BUILDING, STRUCTURE, AND OBJECT RECORD

NRHP Status Code
Resource Name: Atlas Tract Levee

B1. **Historic Name:** Atlas Tract Levee
B2. **Common Name:** Atlas Tract Levee
B3. **Original Use:** Reclamation and flood control
B4. **Present Use:** Reclamation and flood control
B5. **Architectural Style:** Earthen levee
B6. **Construction History:** The levee was constructed in 1905 using the Atlas, a dipper dredger built by the John D. Grant Shipyard in 1903 (Thompson and Dutra 1983:43, 204). During 1987 to 1988, dredging was done to deepen Bear Creek and most of Mosher Slough by ten feet. This dredging did not take place along the eastern levee of Atlas Tract or the easternmost 2,000 feet of Mosher Slough (see sketch below). Spoils from the dredging operation were placed in piles on the Atlas Tract levee along 60 per cent of the levee's length (Chris Nudeck 2005, pers. comm.). In 1998, floodwaters overflowed an 80 foot long (north to south) section of the levee at the southwest corner of the tract (see illustration below). Some of the spoils from the 1987-88 dredging operation were moved onto the overflowed portion of the levee to stop the flooding. In 1999, the levee's height was raised an average of one foot by moving earth from high sections along the top of the levee into low sections. The remaining spoils from the 1987-88 dredging were moved onto the levee and shaped to follow its contours, widening the top by up to seven feet and the base by up to 100 feet (Chris Nudeck 2005, pers. comm.).
B7. **Moved?** No
B8. **Related Features:** None.
B9. **a. Architect:** Unknown
b. Builder: Unknown
B10. **Significance:** **Theme:** Reclamation and agriculture **Area:** Stockton
Period of Significance: 1905-1987 **Property Type:** Levee **Applicable Criteria:** N/A

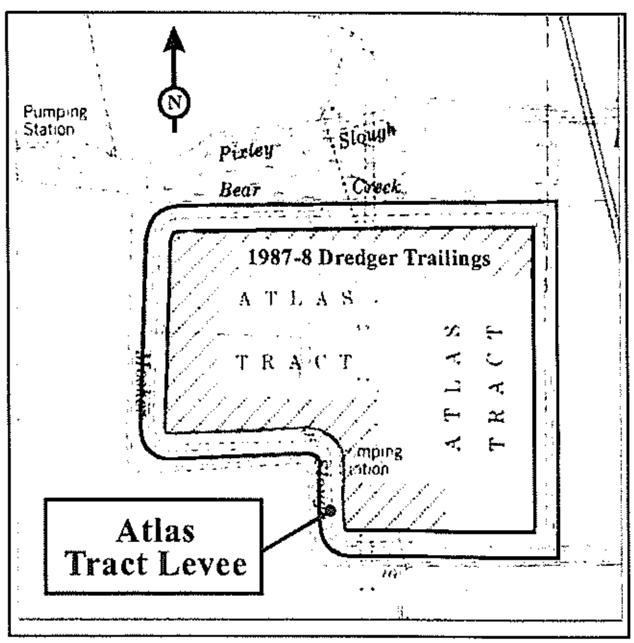
National Register Evaluation

<u>Introduction</u>

The approximately three-mile long Atlas Tract levee is evaluated for eligibility for listing in the National Register of Historic Places (National Register) and California Register of Historical Resources (California Register). Although the levee may have once been eligible for listing in the National Register under Criteria A, for its association with reclamation and agriculture, and C, for its engineering qualities, it no longer retains its integrity and is not eligible for listing in the National or California registers. (Please see page 3.)

B11. **Additional Resource Attributes:** AH6 water conveyance system; AH7 roads.
B12. **References:**
Please see page 6 for references.
B13. **Remarks:**
None.
B14. **Evaluators:** Christian Gerike and Neal Kaptain
Date of Evaluation: August 22, 2005

(This space reserved for official comments.)



Evaluated by: Christian Gerike and Neal Kaptain **Date:** August 22, 2005 ☒ **Continuation**

(Continued from page 2.)
Historical Overview
The historical overview presented below has been adapted from Costello and Marvin (1999).

Stockton History. Stockton found its start as a supplier of goods to the thousands of miners who flocked to the Sierra Nevada gold fields during the California Gold Rush of 1849. Captain Charles M. Weber recognized early that the city would become profitable as a supply center for gold miners and purchased the land that would become Stockton from William Gulnac in 1845. Originally known as Tuleberg, the town's name was changed by Weber to Stockton in 1849 in honor of Commodore Robert F. Stockton (Hoover et al. 1990:350).

With the opening of the southern mines, Stockton grew rapidly in importance and size, and soon became a flourishing trade center (Marschner 2000). Miners made their way to Stockton by boat up the San Joaquin River or over the Livermore Pass. Commerce soon grew and freighting and staging activities developed along with the cattle and agriculture industries. With the establishment of churches and schools, Stockton became a permanent settlement. In 1849, 1,000 people lived in Stockton. In 1850 Stockton was incorporated and also became the county seat (Hoover et al. 1990:350). In 1851, Stockton, which consisted primarily of tents and frame buildings, was nearly destroyed by fire. Subsequent fires in 1856 and 1862 resulted in the need for more permanent structures, and stone and brick establishments were built in the commercial district, including a new city hall that was erected in 1852 (Costello and Marvin 1999:13-14).

In the 1860s the city began making civic improvements that included road construction, street improvements, and sewer works in addition to more churches, schools, and three volunteer fire companies. By the mid 1860s residential neighborhoods were also being developed. In the 1880s and 1890s Stockton became more industrialized. Grain mills and warehouses were constructed, along with manufacturing plants and lumber yards, near the Stockton Channels. More residential housing was developed for the growing population (Costello and Marvin 1999:14-15).

Beginning in 1850 Stockton served as a river landing, with the paddle-wheel steamers the Delta King and the Delta Queen navigating the San Joaquin River from 1850 to 1938. The first inland seaport in California opened in Stockton in 1933 and soon Stockton was known for its boat building industry. Local shipyards were active during World War II filling government contracts; by 1943 fifty firms were supplying the wartime effort. The late 1940s saw a growth of residential and commercial areas to the north of Stockton and by the 1970s the population had almost quadrupled (Hillman and Covello 1985:5-9).

Today, with a population of 260,000, Stockton remains the focal point for the agribusiness of the San Joaquin Valley. The rich farmland of the San Joaquin/Sacramento River Delta supports varied agriculture, growing potatoes, corn, sunflowers, tomatoes, asparagus, and more recently, wine grapes. Stockton is a major transportation hub and a popular water recreation area that has over 1,000 miles of waterways for boating and water sports (City of Stockton 2003).

Delta History. In 1850, Congress Passed The Swamp And Overflow Land Act Which Gave All States Any Unsold Federal Land That Was Either Swamp Or Subject To Overflowing. Under the act, states were to ensure that the lands would be drained, reclaimed, and used for agricultural purposes (Anonymous 1994:5). Delta ownership was passed from the federal government to the state, and by 1855, California had passed the Reclamation District Act providing for the sale of swamp and overflow lands. By 1871, almost all of the state's swampland had been sold to private interests (Thompson and Dutra 1983).

In the years following the Gold Rush, the economy of the Stockton area shifted from mining to agriculture. In the 1860s, the number of miners in the state dropped from 83,000 to 36,000 (US Army Corps of Engineers 1990:4). Many of the miners relocated to the Delta to become farmers (Cook n.d.:20). Large number of Chinese laborers became available in 1869 when the transcontinental railroad's Chinese labor force found themselves without work (Delta Protection Commission 1994:5). They made their way to the Delta where, working with simple hand tools, they built the first levees around a number of islands (Maniery and Syda 1989:19).

(Continued on Page 4.)

(Continued from page 3.)

The earliest levee construction was not an organized or systematic effort. The Delta's first levee may have been constructed in 1849 on Grant Island; other sources indicate that the first levee was built on Merritt Island in 1853 (Delta Protection Commission 1994:5). Initial reclamation attempts took the form of shoe string levees: low mounds of sediment atop natural levees along rivers that only served to hold back tidal waters (Thompson 1982:9). Levees around the Delta's islands were built next; some were constructed of sediment and some were constructed of peat (Thompson 1982:12). Early levees were prone to failure, as evidenced by floods at the Webb Tract in 1872-3, Bacon Island in 1873, and Bouldin Island in 1874 (Maniery and Syda 1989:19). Levee construction improved in the late 1800s, with the invention of the clamshell dredger, hydraulic dredger, and steam driven dredger. Mechanical dredgers constructed levees using sediment deeper than the shallow peat used by human labor, resulting in stronger levees (Maniery and Syda 1989:21).

By 1880, levees had been constructed around almost all the islands in the Delta, and by 1930, all but a few areas were being farmed (Delta Protection Commission 1994:6; Frayer, Peters, and Pywell 1989:6). Since flooding in 1907, levee maintenance and improvement has been an ongoing process, with spoils from channel dredging being used to raise and widen the levees (Dillon 1982:92). Almost all of the Delta's flood control levees have been improved over the years (Thompson 2005).

The Delta now contains over 500,000 acres of reclaimed land, interconnected by 1,000 miles of natural and man-made watercourses (Delta Protection Commission 1995:1). Agriculture dominates the Delta's economy, with over 91 per cent of the Delta zoned for agriculture (California Department of Water Resources 1986:2). Water-based recreation in the form of fishing, boating, and water-skiing has come to occupy a large part of the Delta's economy (Delta Protection Commission 1995:1).

Atlas Tract Levee. Levee construction in the vicinity of the Atlas Tract, along the San Joaquin, Mokelumne, and Stanislaus rivers, began in 1853 at Rough and Ready Island (Dillon 1982:90). The Atlas Tract is part of Reclamation District 2126, which is one of the smallest reclamation districts in the Delta (Chris Nudeck 2005, pers. comm.). Its levee was constructed in 1905 using the Atlas, a dipper dredger built by the John D. Grant Shipyard in 1903 (Thompson and Dutra 1983:43, 204). Routine maintenance took place along the levee until 1987-88, when dredging was done to deepen Bear Creek and most of Mosher Slough by ten feet for the Harbor Cove project. (The Harbor Cove project—planned for the Atlas Tract—was never completed.) Spoils from the dredging operation were placed in piles on the landward side of the levee ((Chris Nudeck 2005, pers. comm.). In 1998, floodwaters topped an 80 foot long (north to south) section of the levee at the southwest corner of the tract. Some of the spoils from the 1987-88 dredging operation were moved onto the overflowed portion of the levee to stop the flooding. In 1999, the levee's height was raised an average of one foot by moving earth from high sections along the top of the levee into low sections. Also at this time, the remaining spoils from the 1987-88 dredging were moved onto the levee and shaped to follow its contours, widening the up to twenty feet and the base up to 100 feet (Chris Nudeck 2005, pers. comm.).

Evaluation

A discussion of the levee's significance under each of the four National and California register criteria appears below:

Criterion A/1. Under this criterion, the levee is significant at the regional level for its importance to agriculture and water transportation. The levee encloses a 360-acre tract of land which was used for agricultural purposes. Agriculture and water transportation are important themes in the historical development of Stockton and the Delta.

Criterion B/2. Under this criterion, the levee is not significant as it is not associated with any persons important in San Joaquin County history. John Grant, the builder and owner of the dredger Atlas, was part owner of the Atlas Tract when the levee was constructed by the Atlas in 1905. Mr. Grant was a successful dredge builder but was not a significant person in Stockton history (Kennedy 1992). Other owners of the tract, George Fox and Edward J. McDade, do not appear to have been significant figures in Stockton history.

(Continued on page 5.)

Evaluated by: Christian Gerike and Neal Kaptain **Date:** August 22, 2005 ☒ **Continuation**

(Continued from page 4.)

Evaluation (cont.)

Criterion C/3. Under this criterion, the levee, which is part of the historic Delta levee system, is significant for it engineering qualities, as part of efforts to convert swampland into productive farmland (American Society of Civil Engineers 1976:26).

Criterion D/4. Under this criterion, the Atlas Tract Levee is a common feature and it is not anticipated that its study would result in new information about levee construction techniques. Also, no archaeological deposits in association with the levee have been identified. Under this criterion, the Atlas Tract Levee does not appear eligible as it has not, and is unlikely to, yield information important to prehistory or history unless archaeological deposits are encountered during ground disturbing activity.

Integrity

The Atlas Tract Levee underwent extensive changes during 1987-88, when dredging was done to deepen Bear Creek and most of Mosher Slough by ten feet. Spoils from the dredging operation were placed in piles on the levee on its inland side along 60 per cent of the levee's length (Chris Nudeck 2005, pers. comm.). In 1998, some of the spoils were moved on top of the levee to arrest flooding. In 1999, the spoils were shaped to follow the levee's contours: the levee's top was widened by up to seven feet and the base was widened by up to 100 feet (Chris Nudeck 2005, pers. comm.).

As a result of the extensive changes to the levee in 1987-88 and alterations in 1999, the levee no longer retains integrity of design, materials, workmanship, and feeling.

Period of Significance

The Atlas Tract Levee was constructed in 1905 and retained its original appearance and dimensions until 1987, when large quantities of dredger spoils were added to 60 per cent of the levee, ending its period of historical significance.

California Register

A cultural resource that is eligible for listing in the National Register is automatically eligible for listing in the California Register (California Office of Historic Preservation 2001c). The Atlas Tract Levee is not eligible for listing in the National Register because it does not retain sufficient integrity to convey it historical significance. A resource may still be eligible for the California Register if it has "lost its historic character or appearance" but still has the "potential to yield significant scientific or historical information or specific data." The California Register, unlike the National Register, allows eligibility if a property has been moved or reconstructed (California Office of Historic Preservation 1999). The Atlas Tract Levee does not possess scientific or historical information and has not been moved or reconstructed, and therefore is not eligible for listing in the California Register.

Conclusion

It is LSA's opinion that the Atlas Tract Levee, although important in the history of water reclamation and agriculture in the Sacramento-San Joaquin Delta, has been extensively altered and no longer retains sufficient integrity to convey its historical significance and does not possess significant scientific or historical information and is therefore not eligible for listing in either the National or California registers.

Evaluated by: Christian Gerike and Neal Kaptain **Date:** August 22, 2005 ☒ **Continuation**

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(Continued on Page 7.)

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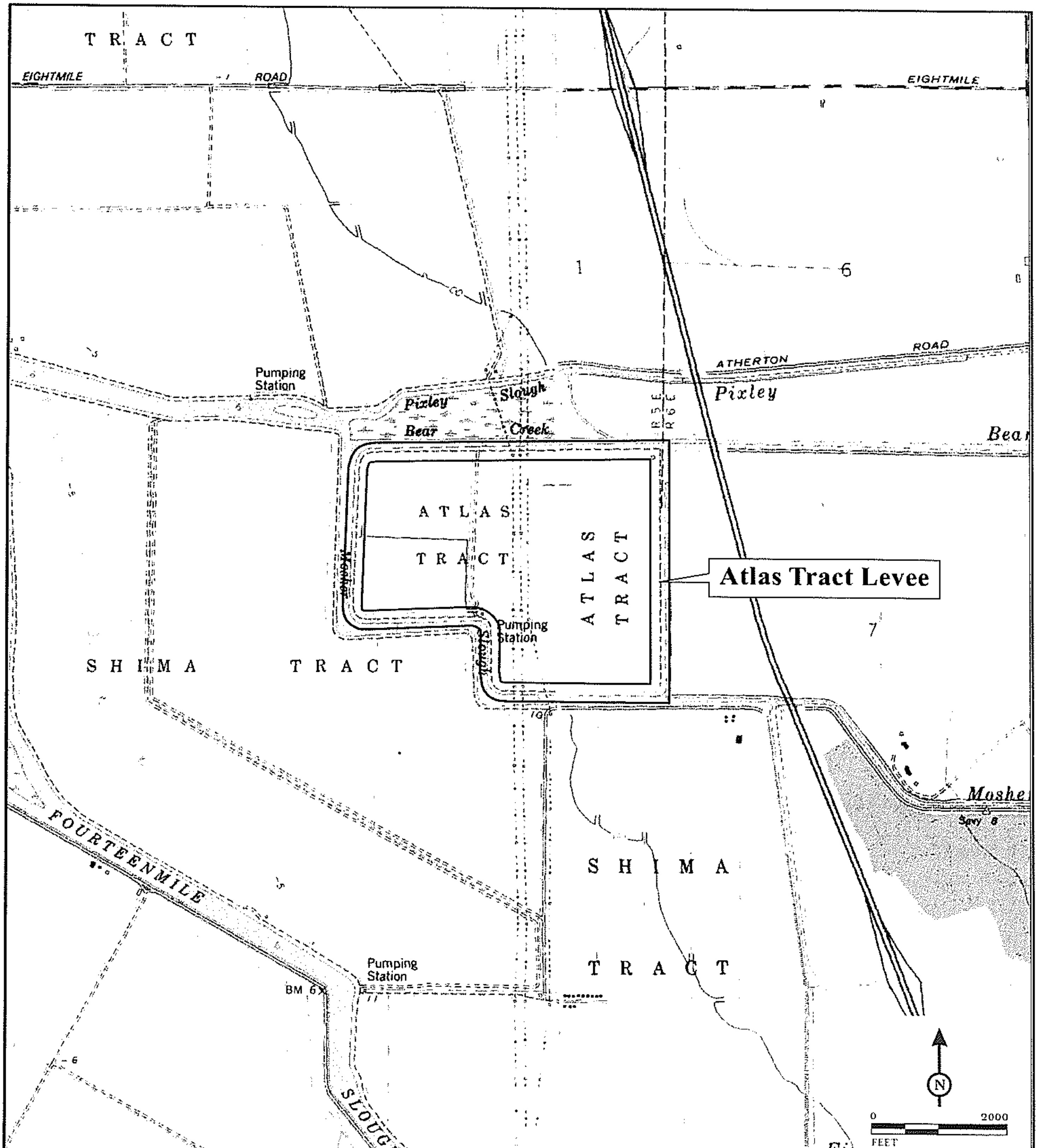
Resource Name: Atlas Tract Levee

Date: 8/23/05



NOISE IMPACT ANALYSIS

TRINITY PARKWAY EXTENSION PHASE 2

LSA

May 2006

NOISE IMPACT ANALYSIS

TRINITY PARKWAY EXTENSION PHASE 2

Submitted to:
City of Stockton
425 N. El Dorado Street
Stockton, California 95202

Prepared for:
A.G. Spanos Companies
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Stockton, California 95219

Prepared by:
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(949) 553-0666

LSA Project No. AGS0601

LSA

May 2006

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FIGURES AND TABLES

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TRINITY PARKWAY EXTENSION PHASE 2
NOISE IMPACT ANALYSIS

INTRODUCTION

This noise impact analysis has been prepared to evaluate the potential noise impacts and mitigation measures associated with the Trinity Parkway Extension Phase 2 project in the City of Stockton (City), San Joaquin County, California (Figure 1). This report is intended to satisfy the City's requirement for a project-specific final noise impact analysis by examining the impacts on off-site noise-sensitive uses and evaluating the mitigation measures incorporated as part of the project design.

PROJECT DESCRIPTION

In September 2003, the City Council adopted the Aksland Avenue/Trinity Parkway Extension project (Phase 1) which included the construction of a bridge over Bear Creek that connects to the north with Trinity Parkway and extends south to Otto Drive. In Phase 2 of the project, the roadway will continue south from Otto Drive across Mosher Slough. The roadway is a four-lane minor arterial and will include construction of a bridge over Mosher Slough. Ultimately, the Trinity Parkway Extension will continue south from Mosher Slough to an extension of Hammer Lane.

METHODOLOGY RELATED TO NOISE IMPACT ASSESSMENT

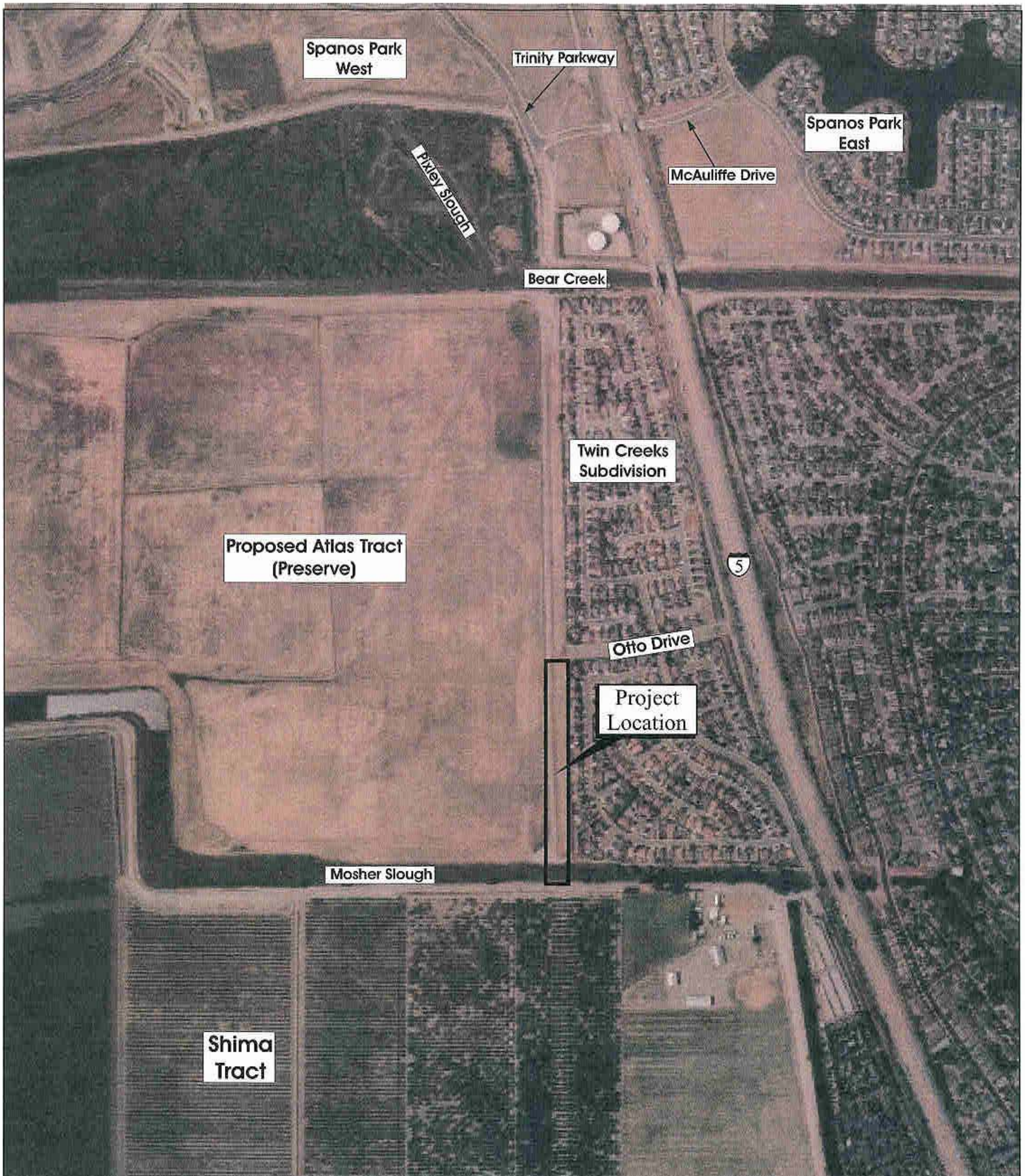
Evaluation of noise impacts associated with the proposed project includes the following:

- Determine the noise impacts associated with short-term construction of the proposed project on adjacent noise-sensitive uses
- Determine the long-term traffic noise impacts on noise-sensitive uses adjacent to the project site
- Determine the required mitigation measures to reduce short-term and long-term noise impacts

This noise impact analysis utilizes the City's noise standards, including the City's Noise Element and Municipal Code, as thresholds against which potential noise impacts are evaluated.

CHARACTERISTICS OF SOUND

Sound is increasing to such disagreeable levels in the environment that it can threaten quality of life. Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.



LSA

FIGURE 1

N

Trinity Parkway Phase 2
Project Vicinity

SOURCE: Terra Server USA, 2006

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To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves, combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

MEASUREMENT OF SOUND

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) are 10 times more intense than 1 decibel, 20 decibels are 100 times more intense, and 30 decibels are 1,000 times more intense. Thirty decibels represent 1,000 times more acoustic energy than one decibel. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 decibels. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10-decibel increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately six decibels for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases three decibels for each doubling of distance in a hard site environment. Line source noise, when produced within a relatively flat environment with absorptive vegetation, decreases four and one-half decibels for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoyance effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time-varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis are specified in terms of maximum levels denoted by L_{max} for short-term noise impacts. L_{max} reflects peak operating conditions and addresses the annoyance aspects of intermittent noise.

Another noise scale often used together with the L_{max} in noise ordinances for enforcement purposes is noise standards in terms of percentile noise levels. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts, which refers to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater, since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

PSYCHOLOGICAL AND PHYSIOLOGICAL EFFECTS OF NOISE

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying less developed areas.

Table A lists “Definitions of Acoustical Terms” and Table B shows “Common Sound Levels and Their Noise Sources.” Table C shows “Land Use Compatibility for Exterior Community Noise” recommended by the California Department of Health, Office of Noise Control.

Table A: Definitions of Acoustical Terms

Term	Definition
Decibel, dB	A unit of level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{02}, L_{08}, L_{50}, L_{90}	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max}, L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurement and Noise Control 1991.

Table B: Common Sound Levels and Their Noise Sources

Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Evaluations
Near jet engine	140	Deafening	128 times as loud
Civil defense siren	130	Threshold of pain	64 times as loud
Hard rock band	120	Threshold of feeling	32 times as loud
Accelerating motorcycle at a few feet away	110	Very loud	16 times as loud
Pile driver; noisy urban street/heavy city traffic	100	Very loud	8 times as loud
Ambulance siren; food blender	95	Very loud	
Garbage disposal	90	Very loud	4 times as loud
Freight cars; living room music	85	Loud	
Pneumatic drill; vacuum cleaner	80	Loud	2 times as loud
Busy restaurant	75	Moderately loud	
Near freeway auto traffic	70	Moderately loud	Reference level
Average office	60	Quiet	½ as loud
Suburban street	55	Quiet	
Light traffic; soft radio music in apartment	50	Quiet	¼ as loud
Large transformer	45	Quiet	
Average residence without stereo playing	40	Faint	⅛ as loud
Soft whisper	30	Faint	
Rustling leaves	20	Very faint	
Human breathing	10	Very faint	Threshold of hearing

Source: Compiled by LSA Associates, Inc., 2004.

Table C: Land Use Compatibility for Exterior Community Noise

Land Use Category	Noise Range (L_{dn} or CNEL), dB			
	I	II	III	IV
Passively used open spaces	50	50–55	55–70	70+
Auditoriums, concert halls, amphitheaters	45–50	50–65	65–70	70+
Residential: low-density single-family, duplex, mobile homes	50–55	55–70	70–75	75+
Residential: multifamily	50–60	60–70	70–75	75+
Transient lodging: motels, hotels	50–60	60–70	70–80	80+
Schools, libraries, churches, hospitals, nursing homes	50–60	60–70	70–80	80+
Actively used open spaces: playgrounds, neighborhood parks	50–67	–	67–73	73+
Golf courses, riding stables, water recreation, cemeteries	50–70	–	70–80	80+
Office buildings, business commercial and professional	50–67	67–75	75+	–
Industrial, manufacturing, utilities, agriculture	50–70	70–75	75+	–

Source: Office of Noise Control, California Department of Health 1976.

Noise Range I—Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Noise Range II—Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.

Noise Range III—Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Noise Range IV—Clearly Unacceptable: New construction or development should generally not be undertaken.

EXISTING CONDITIONS

Existing Sensitive Land Uses in the Project Area

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to noise. Existing land uses within the project area include residential land uses. These residences are located east of the project site.

Overview of the Existing Noise Environment

Existing Traffic Noise. The primary existing noise sources in the project area are transportation facilities. Traffic on Eight Mile Road, Hammer Lane, Trinity Parkway, Mariners Drive, and other local streets is a steady source of ambient noise in the project vicinity. The Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. This model requires various parameters, including traffic volumes, vehicle mix, vehicle speed, and roadway geometry, to compute typical equivalent noise levels during daytime, evening, and nighttime hours. The existing average daily traffic (ADT) volumes in the area were taken from the *Atlas Tract EIR Traffic Impact Analysis* (Fehr & Peers Transportation Consultants, January 2006). This traffic analysis was used to evaluate traffic noise impacts along the Trinity Parkway extension because the traffic analysis provides a worst-case traffic condition with implementation of the Atlas Tract/The Preserve project. The resultant noise levels are weighted and summed over 24-hour periods to determine the CNEL values. Table D provides the existing (2005) plus approved project traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent worst-case scenarios, which assume that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix A.

As shown in Table D, traffic noise along Trinity Parkway and Aksland Drive is generally moderate to moderately low. Along Trinity Parkway south of McAuliffe Way, the 65 and 60 dBA CNEL impact zones extend 84 and 175 feet from the centerline, respectively. Along Aksland Drive north of Otto Drive, the 65 and 60 dBA CNEL impact zones extend 77 and 160 feet from the centerline, respectively.

Thresholds of Significance

A project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas of conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project site are the criteria in the City’s Noise Element of the General Plan and the Municipal Code.

City of Stockton Noise Standards

Noise Element of the General Plan. Applicable policies and standards governing environmental noise in the City are set forth in the Noise Element of the General Plan. The goals of the Noise Element, compiled under the mandate of Section 65302(f) of the California Government Code and

Table D: Existing (2005) Plus Approved Project Traffic Noise Levels[1]

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Center-line to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Centerline of Outermost Lane
Eight Mile Road					
Eight Mile Road west of Regatta Drive	6,030	< 50[2]	58	117	63.2
Eight Mile Road east of Regatta Drive	15,080	< 50	100	212	67.2
Eight Mile Road west of Trinity Parkway	21,730	63	127	269	68.8
Eight Mile Road east of Trinity Parkway	60,030	116	246	528	73.2
Otto Drive					
Between Aksland Drive and Mariners Drive	13,250	< 50	77	160	65.3
Hammer Lane					
Between Aksland Drive and Mariners Drive	1,200	< 50	< 50	< 50	54.9
East of Mariners Drive	30,460	70	133	278	68.2
Trinity Parkway					
South of Eight Mile Road	42,900	75	162	348	71.9
North of McAuliffe Way	26,130	59	118	251	68.3
South of McAuliffe Way	15,150	< 50	84	175	65.9
Aksland Drive					
North of Otto Drive	13,250	< 50	77	160	65.3
Mariners Drive					
North of Otto Drive	2,200	< 50	< 50	< 50	57.6
Between Otto Drive and Whitewater Lane	15,050	< 50	65	139	66.0
Between Whitewater Lane and Blackswain Place	14,130	< 50	62	134	65.7
Between Blackswain Place and Surgeon Road	14,180	< 50	62	134	65.7
South of Surgeon Road	15,450	< 50	82	176	67.5
North of Hammer Lane	22,260	< 50	104	225	69.1
South of Hammer Lane	9,400	< 50	59	127	65.3
Regatta Drive					
South of Eight Mile Road	9,450	< 50	59	127	65.4

Source: LSA Associates, Inc., April 2006.

1 Assumes traffic is utilizing Aksland Drive/Trinity Parkway between McAuliffe Way and Otto Drive; segment/Bear Creek Bridge to be constructed.

2 Traffic noise within 50 feet of the roadway centerline requires site-specific analysis.

guidelines prepared by the California Department of Health Services (DHS), are to ensure that all areas of the City are free from excessive noise and that appropriate maximum levels are adopted for residential, commercial, and industrial areas; to reduce new noise sources to the maximum extent possible; to reduce, to the maximum extent possible, the impact of noise within the City; and to ensure that land uses are compatible with the related noise characteristics of those uses. The following summarizes the City's noise standards.

NOI-a The General Plan of the City of Stockton considers that new residential development shall not be allowed where the ambient noise level due to locally regulated noise sources (i.e., all noise sources other than roadway, railroad, and aircraft noise) will exceed the noise level standards as set forth in Table E.

Each of the noise level standards specified in Table E shall be reduced by five dBA for simple tone noises, noises consisting of primarily speech or music, or for recurring impulsive noises.

Table E: Exterior Noise Level Standards for Locally Regulated Noise Sources

Noise Level Descriptor	Daytime (7:00 a.m.–10:00 p.m.)	Nighttime (10:00 p.m.–7:00 a.m.)
Hourly L_{eq}, dBA	55	45
Maximum level, L_{max}, dBA	75	65

Source: City of Stockton, November 1998.

NOI-b The compatibility of proposed projects with existing and future noise levels due to traffic on public roadways, railroad line operations, and aircraft in flight shall be evaluated by comparison to Table F.

NOI-c New development of residential land uses will not be permitted in areas exposed to existing or projected exterior noise levels exceeding 60 dBA L_{dn}/CNEL or the standards of Table F unless the project design includes effective mitigation measures to reduce noise to the following levels:

1. For noise due to traffic on public roadways, railroad line operations, and aircraft in flight: 60 dBA L_{dn}/CNEL or less in outdoor activity areas, and 45 dBA L_{dn}/CNEL or less in indoor areas. Where it is not possible to reduce exterior noise to 60 dBA L_{dn}/CNEL or less by incorporating a practical application of the best available noise-reduction technology, an exterior noise level of up to 65 dBA L_{dn}/CNEL will be allowed. Under no circumstances will interior noise levels be permitted to exceed 45 dBA L_{dn}/CNEL with the windows and doors closed.
2. For noise from sources other than roadways, railroads, and aircraft, comply with the performance standards contained in Table F.

NOI-d Noise produced by commercial uses shall not exceed 75 dBA L_{dn}/CNEL at the nearest property line.

Table F: Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (dBA L_{dn} or CNEL)			
	Normally Acceptable[1]	Conditionally Acceptable[2]	Normally Unacceptable[3]	Clearly Unacceptable[4]
Residential	50–60	60–70	70–75	75–85
Transient Lodging - Motels, Hotels	50–60	60–70	70–80	80–85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–60	60–70	70–80	80–85
Auditoriums, Concert Halls, Amphitheatres, Sport Arenas	N/A	50–75	N/A	75–85
Playgrounds, Neighborhood Parks	50–70	N/A	70–75	75–85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	N/A	75–80	80–85
Office Buildings, Business Commercial and Professional	50–67.5	67.5–75	75–85	N/A
Industrial, Manufacturing Utilities, Agriculture	50–70	70–80	80–85	N/A

Source: City of Stockton, November 1998.

1 Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

2 Conditionally Acceptable: New construction of development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems of air conditioning, will normally suffice.

3 Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and the needed noise insulation features included in the design.

4 Clearly Unacceptable: New construction or development should generally not be undertaken.

NOI-e Noise produced by industrial uses shall not exceed 80 dBA L_{dn}/CNEL at the nearest property line.

NOI-f The Office of Noise Control under the California Health and Safety Code has promulgated a 45 dBA CNEL standard for interior noise levels of multifamily residential units. The City also enforces building sound transmission and indoor fresh air ventilation requirements specified in Chapter 35 of the Uniform Building Code.

Municipal Code. Section 16-340.030 of the City's Municipal Code limits construction hours across residential property lines.

> **Construction Noise.** Operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work between the hours of 10:00 p.m. and 7:00 a.m. so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities, is prohibited.

PROJECT IMPACTS

Construction Noise

Short-term noise impacts would be associated with the excavation and grading on site during construction of the proposed project. Construction-related short-term noise levels would be higher than existing ambient noise levels in the project area today but would no longer occur once project construction is completed.

Two types of short-term noise impacts could occur during construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the project site would incrementally increase noise levels on site access roads. As shown in Table G, there will be a relatively high single-event noise exposure potential at a maximum level of 86 dBA L_{max} with trucks passing at 50 feet. However, the projected construction traffic will be minimal when compared to the existing traffic volumes on Trinity Parkway and Aksland Drive. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would not be substantial.

The second type of short-term noise impact is related to noise generated during excavation, grading, and construction on site. Construction is performed in discrete steps, each of which has its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety in the types and sizes of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table G lists the maximum noise levels recommended for noise impact assessments for typical construction equipment based on a distance of 50 feet between the equipment and a noise receptor. Typical maximum noise levels range up to 91 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes

Table G: Typical Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels Measured (dBA at 50 Feet)	Suggested Maximum Sound Levels for Analysis (dBA at 50 Feet)
Pile Drivers, 12,000 to 18,000 ft-lb/blow	81–96	93
Rock Drills	83–99	96
Jack hammers	75–85	82
Pneumatic Tools	78–88	85
Pumps	74–84	80
Dozers	77–90	85
Scrapers	83–91	87
Haul Trucks	83–94	88
Cranes	79–86	82
Portable Generators	71–87	80
Rollers	75–82	80
Tractors	77–82	80
Front-End Loaders	77–90	86
Hydraulic Backhoe	81–90	86
Hydraulic Excavators	81–90	86
Graders	79–89	86
Air Compressors	76–89	86
Trucks	81–87	86

Source: Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman, 1987.

compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve one or two minutes of full-power operation followed by three or four minutes at lower-power settings.

Construction of the proposed project is expected to require the use of on-site scrapers, bulldozers, water trucks, and pickup trucks. Based on the information in Table G, the maximum noise level generated by each scraper is assumed to be 87 dBA L_{max} at 50 feet from the scraper. Each bulldozer would also generate 85 dBA L_{max} at 50 feet. The maximum noise level generated by water trucks and pickup trucks is approximately 86 dBA L_{max} at 50 feet from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 91 dBA L_{max} at a distance of 50 feet from the active construction area. The closest existing residences in the vicinity of the project area are located approximately 50 feet from the project construction area. The closest residences may be subject to short-term noise reaching 91 dBA L_{max}, generated by construction activities near the project boundary. Compliance with the hours specified in the City's Municipal Code regarding construction activities will result in a less than significant noise impact on adjacent noise-sensitive land uses.

Traffic Noise Impact

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate traffic-related noise conditions in the vicinity of the project site. The resultant noise levels were weighted and summed over a 24-hour period in order to determine the CNEL values. The existing and projected future traffic volumes (Fehr & Peers Transportation Consultant, January 2006) for roadway segments in the project vicinity were used in the traffic noise impact analysis. Table H shows the Existing (2005) Plus Approved Projects with the Atlas Tract/The Preserve project traffic noise levels adjacent to roadway segments in the project vicinity. As Trinity Parkway between McAuliffe Way and Otto Drive is not yet constructed, the existing (2005) plus approved project traffic noise levels assumes that this roadway segment is operational. Table I shows the 2025 with the Atlas Tract/The Preserve project traffic noise levels adjacent to roadway segments in the project vicinity. Table J shows the 2035 with the Atlas Tract/The Preserve project traffic noise levels adjacent to roadway segments in the project vicinity. These noise levels represent the worst-case scenario, which assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and the model printouts are provided in Appendix A.

Off-Site Traffic Noise Impacts

Based on Table J, the following distances from the roadway centerline could potentially impact existing off-site noise-sensitive land uses along the extended Trinity Parkway/Aksland Drive.

Trinity Parkway/Aksland Drive South of Otto Drive. Existing residences are located east of the proposed Trinity Parkway/Aksland Drive approximately 70 feet from the centerline. Outdoor active use areas such as backyards, patios, or balconies associated with these existing residences may be exposed to a traffic noise level of 67 dBA CNEL, and mitigation to reduce exterior noise levels to the City exterior noise standard of 60 dBA CNEL or below would be required. The proposed Trinity

Table H: Existing (2005) Plus Approved Project Plus Altas Tract/The Preserve Project Traffic Noise Levels[1]

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
Eight Mile Road					
Eight Mile Road west of Regatta Drive	6,030	< 50[2]	58	117	63.2
Eight Mile Road east of Regatta Drive	15,080	< 50	100	212	67.2
Eight Mile Road west of Trinity Parkway	21,730	63	127	269	68.8
Eight Mile Road east of Trinity Parkway	62,800	120	254	544	73.4
Otto Drive					
West of Aksland Drive	13,820	< 50	79	165	65.5
Between Aksland Drive and Mariners Drive	22,970	< 50	109	230	67.7
Hammer Lane					
Between Aksland Drive and Mariners Drive	1,200	< 50	< 50	< 50	54.9
East of Mariners Drive	40,120	80	158	334	69.4
Trinity Parkway					
South of Eight Mile Road	45,670	78	168	363	72.2
North of McAuliffe Way	30,280	64	130	276	68.9
South of McAuliffe Way	19,300	< 50	98	205	67.0
Aksland Drive					
North of Otto Drive	17,500	< 50	92	192	66.5
Mariners Drive					
North of Otto Drive	2,200	< 50	< 50	< 50	57.6
Between Otto Drive and Whitewater Lane	24,725	< 50	90	194	68.1
Between Whitewater Lane and Blackswain Place	23,810	< 50	88	189	68.0
Between Blackswain Place and Surgeon Road	23,860	< 50	88	189	68.0
South of Surgeon Road	25,130	53	113	244	69.6
North of Hammer Lane	31,920	62	133	286	70.7
South of Hammer Lane	9,400	< 50	59	127	65.3
Regatta Drive					
South of Eight Mile Road	9,450	< 50	59	127	65.4

Source: LSA Associates, Inc., April 2006.

1 Assumes traffic is utilizing Aksland Drive/Trinity Parkway between McAuliffe Way and Otto Drive; segment/Bear Creek Bridge to be constructed.

2 Traffic noise within 50 feet of the roadway centerline requires site-specific analysis.

Table I: 2025 Plus Altas Tract/The Preserve Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
Eight Mile Road					
Eight Mile Road west of Regatta Drive	13,400	< 50[1]	97	197	65.9
Eight Mile Road east of Regatta Drive	16,650	< 50	110	227	66.9
Eight Mile Road west of Trinity Parkway	29,940	80	158	334	69.4
Eight Mile Road east of Trinity Parkway	59,900	119	247	528	72.4
Otto Drive					
West of Aksland Drive	13,840	< 50	80	165	65.5
Between Aksland Drive and Mariners Drive	26,070	59	118	250	68.3
Hammer Lane					
Between Aksland Drive and Mariners Drive	17,610	< 50	92	193	66.6
East of Mariners Drive	28,770	68	128	268	68.0
Trinity Parkway					
South of Eight Mile Road	36,140	67	144	310	71.2
North of McAuliffe Way	38,090	73	151	322	69.9
South of McAuliffe Way	28,090	61	124	263	68.6
Aksland Drive					
North of Otto Drive	27,900	61	123	262	68.6
South of Otto Drive	14,500	< 50	82	170	65.7
North of Hammer Lane	15,200	< 50	84	175	65.9
South of Hammer Lane	5,090	< 50	< 50	87	61.2
Mariners Drive					
North of Otto Drive	2,500	< 50	< 50	< 50	58.2
Between Otto Drive and Whitewater Lane	9,160	< 50	< 50	100	63.8
Between Whitewater Lane and Blackswain Place	9,160	< 50	< 50	100	63.8
Between Blackswain Place and Surgeon Road	9,360	< 50	< 50	102	63.9
South of Surgeon Road	10,460	< 50	63	136	65.8
North of Hammer Lane	9,660	< 50	60	129	65.5
South of Hammer Lane	4,200	< 50	< 50	74	61.8
Regatta Drive					
South of Eight Mile Road	3,650	< 50	< 50	68	61.2

Source: LSA Associates, Inc., April 2006.

[1] Traffic noise within 50 feet of the roadway centerline requires site-specific analysis.

Table J: 2035 Plus Altas Tract/The Preserve Project Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 Feet from Outermost Lane
Eight Mile Road					
Eight Mile Road west of Regatta Drive	36,840	95	183	383	69.7
Eight Mile Road east of Regatta Drive	44,050	104	205	431	70.5
Eight Mile Road west of Trinity Parkway	55,750	118	238	504	71.5
Eight Mile Road east of Trinity Parkway	77,110	142	293	624	72.9
Otto Drive					
East of Shima Tract Parkway	15,420	< 50[1]	85	177	66.0
West of Aksland Drive	35,850	71	145	309	69.7
Between Aksland Drive and Mariners Drive	43,860	80	165	353	70.5
Hammer Lane					
Between Aksland Drive and Mariners Drive	40,400	76	157	334	70.2
East of Mariners Drive	54,100	94	191	406	70.7
Trinity Parkway					
South of Eight Mile Road	34,960	66	141	303	71.0
North of McAuliffe Way	36,220	71	146	311	69.7
South of McAuliffe Way	32,490	67	136	289	69.2
Aksland Drive					
North of Otto Drive	31,290	65	133	282	69.1
South of Otto Drive	19,100	< 50	97	204	66.9
North of Hammer Lane	34,720	74	144	303	68.8
South of Hammer Lane	25,260	64	119	246	67.4
Mariners Drive					
North of Otto Drive	1,600	< 50	< 50	< 50	56.2
Between Otto Drive and Whitewater Lane	8,800	< 50	< 50	97	63.6
Between Whitewater Lane and Blackswain Place	8,800	< 50	< 50	97	63.6
Between Blackswain Place and Surgeon Road	9,000	< 50	< 50	99	63.7
South of Surgeon Road	10,100	< 50	62	133	65.7
North of Hammer Lane	11,800	< 50	69	147	66.3
South of Hammer Lane	4,770	< 50	< 50	81	62.4
Regatta Drive					
South of Eight Mile Road	11,290	< 50	67	143	66.1
Shima Tract Parkway					
North of Otto Drive	13,560	< 50	61	130	65.5
South of Otto Drive	12,890	< 50	59	126	65.3

Source: LSA Associates, Inc., April 2006.

[1] Traffic noise within 50 feet of the roadway centerline requires site-specific analysis.

Parkway Extension Phase 2 proposes to use rubberized asphalt and would reduce traffic noise levels of 2 dBA or more from the predicted traffic noise levels. Therefore, if the existing residences do not have any sound barriers between the outdoor active use area and the proposed Trinity Parkway extension, a sound barrier with a minimum wall height of six feet is required along Trinity Parkway/Aksland Drive to provide noise attenuation for outdoor active use areas associated with existing residences located east of the project site. If, however, these existing residences have sound barriers lower than six feet, additional wall height is required to reduce traffic noise levels to 60 dBA CNEL or below. Also, second-floor balconies with a minimum wall height of six feet along the perimeter of the balconies are required to reduce traffic noise levels to 60 dBA CNEL or below.

The proposed Atlas Tract/The Preserve development is located west of the proposed Trinity Parkway/Aksland Drive. As this project has not yet been approved, no mitigation measures are required. However, mitigation measures to reduce traffic noise levels will be the responsibility of the proposed development.

Residential structures located within 323 feet of the Trinity Parkway/Aksland Drive centerline where there are no intervening structures between them would be exposed to a traffic noise level exceeding 57 dBA CNEL. With windows open, interior noise levels at these residences would potentially exceed the interior noise standard of 45 dBA CNEL (i.e., 58 dBA - 12 dBA = 46 dBA). As there are existing residences located adjacent to the proposed Trinity Parkway extension, the City shall coordinate with residents to ensure that mechanical ventilation systems such as air-conditioning is provided to maintain the interior noise standard of 45 dBA CNEL.

MITIGATION MEASURES

Construction Impacts. Construction of the proposed project would potentially result in relatively high noise levels and annoyance at the closest residences. The following measures would reduce short-term construction related noise impacts resulting from the proposed project:

- During all project site excavation and on-site grading, the project contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- The project contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.
- During all project site construction, the construction contractor shall limit all construction-related activities to the hours of 7:00 a.m. to 10:00 p.m. on weekdays and weekends.

Traffic Noise Impacts. The following mitigation measures shall be implemented for the existing noise-sensitive land uses adjacent to the proposed project.

Exterior Noise. The following mitigation measure is required for outdoor active use areas:

- The existing first row of residences located east of the project site requires a sound barrier to protect outdoor active use areas such as backyards, patios, and balconies located in the following areas:
    - A minimum wall height of six feet to protect backyards and ground-floor patios
    - A minimum wall height of six feet to protect second-floor balconies

Interior Noise. The City shall coordinate with residences located adjacent to the proposed project to ensure that air-conditioning systems are provided to maintain the City's interior noise standard of 45 dBA CNEL for the following areas:

- Within 323 feet of the Trinity Parkway/Aksland Drive centerline

Level of Significance after Mitigation

With implementation of the identified mitigation measures, potential noise impacts would be reduced to below a level of significance.

REFERENCES

Bolt, Beranek & Newman, Noise Control for Buildings and Manufacturing Plants, 1987.

City of Stockton, Municipal Code.

City of Stockton, Noise Element of the General Plan, 1998.

Federal Highway Administration, Highway Traffic Noise Prediction Model, FHWA RD-77-108, 1977.

Fehr & Peers Transportation Consultants, *Atlas Tract EIR Traffic Impact Analysis*, January 2006.

Harris, Cyril, *Handbook of Acoustical Measurements and Noise Control*, 1991, Third Edition.

United States Environmental Protection Agency, Protective Noise Levels: Condensed Version of EPA Levels Document, 1978.

APPENDIX A

FHWA TRAFFIC NOISE MODEL PRINTOUTS

TRINITY PARKWAY EXTENSION PHASE 2

FHWA TRAFFIC NOISE MODEL PRINTOUTS

EXISTING (2005) PLUS APPROVED PROJECT

TRAFFIC NOISE CONDITIONS

TABLE Existing AP-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road west of Regatta Drive
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6030 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.1	116.6	246.9

TABLE Existing AP-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road east of Regatta Drive
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15080 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	100.5	211.5	453.3

TABLE Existing AP-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road west of Trinity Parkway
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21730   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
62.6	126.7	269.1	577.9

TABLE Existing AP-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road east of Trinity Parkway
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 60030 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
116.2	246.2	528.3	1137.0

TABLE Existing AP-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive west of Askland Drive
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 0   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 24.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	0.0

TABLE Existing AP-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive between Askland Drive and Mariners Drive
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13250 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	77.4	160.4	342.5

TABLE Existing AP-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Hammer Lane between Askland Drive and Mariners Drive
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1200   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	73.0

TABLE Existing AP-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Hammer Lane east of Mariners Drive
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30460 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
69.5	133.1	278.3	595.5

TABLE Existing AP-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway south of Eight Mile Road
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 42900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
75.2	161.5	347.8	749.0

TABLE Existing AP-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway north of McAuliffe Way
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26130 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.9	118.2	250.5	537.7

TABLE Existing AP-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway south of McAuliffe Way
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15150 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	84.0	175.1	374.4

TABLE Existing AP-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive north of Otto Drive
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13250   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	77.4	160.4	342.5

TABLE Existing AP-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive north of Otto Drive
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2200 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	83.4

TABLE Existing AP-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Otto Drive and Whitewater Lane
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15050 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.9	139.2	299.7

TABLE Existing AP-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Whitewater Lane and Blackswain Place
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14130 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.69

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.2	133.5	287.4

TABLE Existing AP-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Blackswain Place and Surgeon Road
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14180   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.71

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.4	133.8	288.1

TABLE Existing AP-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive south of Surgeon Road
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15450 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	82.0	176.2	379.3

TABLE Existing AP-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive north of Hammer Lane
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22260   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.09

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	104.4	224.7	483.8

TABLE Existing AP-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive south of Hammer Lane
NOTES: Trinity Parkway - Existing AP

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9400   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.0	126.6	272.4

TABLE Existing AP-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Regatta Drive south of Eight Mile Road
NOTES: Trinity Parkway - Existing AP

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9450   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.2	127.0	273.3

TRINITY PARKWAY EXTENSION PHASE 2

FHWA TRAFFIC NOISE MODEL PRINTOUTS

2025 PLUS ATLAS TRACT/THE PRESERVE

TRAFFIC NOISE CONDITIONS

TABLE Existing AP P-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road west of Regatta Drive
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6030   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.1	116.6	246.9

TABLE Existing AP P-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road east of Regatta Drive
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15080 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	100.5	211.5	453.3

TABLE Existing AP P-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road west of Trinity Parkway
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21730   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
62.6	126.7	269.1	577.9

TABLE Existing AP P-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road east of Trinity Parkway
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 62800   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
119.6	253.6	544.4	1171.7

TABLE Existing AP P-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive west of Askland Drive
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13820   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	79.4	164.9	352.2

TABLE Existing AP P-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive between Askland Drive and Mariners Drive
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22970 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	108.9	230.2	493.6

TABLE Existing AP P-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Hammer Lane between Askland Drive and Mariners Drive
NOTES: Trinity Parkway - Existing AP P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1200   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 54.90

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	73.0

TABLE Existing AP P-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Hammer Lane east of Mariners Drive
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40120 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
80.0	158.1	333.5	715.1

TABLE Existing AP P-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway south of Eight Mile Road
NOTES: Trinity Parkway - Existing AP P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 45670   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
78.4	168.4	362.6	780.9

TABLE Existing AP P-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway north of McAuliffe Way
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30280 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
64.0	130.0	276.2	593.1

TABLE Existing AP P-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway south of McAuliffe Way
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19300 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	97.6	205.2	439.7

TABLE Existing AP P-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive north of Otto Drive
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17500   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	91.8	192.4	412.0

TABLE Existing AP P-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive north of Otto Drive
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2200   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 57.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	83.4

TABLE Existing AP P-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Otto Drive and Whitewater Lane
NOTES: Trinity Parkway - Existing AP P

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 24725   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.12

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	90.1	193.8	417.3

TABLE Existing AP P-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Whitewater Lane and Blackswain Place
NOTES: Trinity Parkway - Existing AP P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23810 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.96

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	87.9	189.0	406.9

TABLE Existing AP P-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Blackswain Place and Surgeon Road
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23860 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.97

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	88.0	189.2	407.5

TABLE Existing AP P-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive south of Surgeon Road
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25130   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.61

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
52.8	113.2	243.5	524.4

TABLE Existing AP P-18

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive north of Hammer Lane
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31920   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
61.8	132.7	285.6	615.0

TABLE Existing AP P-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive south of Hammer Lane
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9400 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.0	126.6	272.4

TABLE Existing AP P-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Regatta Drive south of Eight Mile Road
NOTES: Trinity Parkway - Existing AP P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9450   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	59.2	127.0	273.3

TRINITY PARKWAY EXTENSION PHASE 2

FHWA TRAFFIC NOISE MODEL PRINTOUTS

EXISTING (2005) PLUS APPROVED PROJECT

PLUS ATLAS TRACT/THE PRESERVE

TRAFFIC NOISE CONDITIONS

TABLE 2025 P-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road west of Regatta Drive
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	97.0	197.3	419.5

TABLE 2025 P-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road east of Regatta Drive
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 16650   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.87

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	110.2	227.1	484.4

TABLE 2025 P-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road west of Trinity Parkway
NOTES: Trinity Parkway - 2025 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29940   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
80.0	158.1	333.5	715.1

TABLE 2025 P-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road east of Trinity Parkway
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 59900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
119.0	247.0	527.6	1134.5

TABLE 2025 P-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive west of Askland Drive
NOTES: Trinity Parkway - 2025 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13840 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	79.5	165.0	352.6

TABLE 2025 P-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive between Askland Drive and Mariners Drive
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26070   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS			
	75.51	12.57	9.34
M-TRUCKS			
	1.56	0.09	0.19
H-TRUCKS			
	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.27

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.8	118.1	250.2	536.9

TABLE 2025 P-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Hammer Lane between Askland Drive and Mariners Drive
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17610 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	92.2	193.2	413.7

TABLE 2025 P-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Hammer Lane east of Mariners Drive
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28770   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
67.6	128.5	268.1	573.3

TABLE 2025 P-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway south of Eight Mile Road
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36140 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
67.1	144.1	310.2	668.1

TABLE 2025 P-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway north of McAuliffe Way
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 38090   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
73.1	150.8	321.5	691.0

TABLE 2025 P-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway south of McAuliffe Way
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28090 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
61.3	123.8	262.8	564.2

TABLE 2025 P-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive north of Otto Drive
NOTES: Trinity Parkway - 2025 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 27900 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.57

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
61.1	123.3	261.6	561.7

TABLE 2025 P-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive south of Otto Drive
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 14500   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	81.8	170.1	363.6

TABLE 2025 P-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive north of Hammer Lane
NOTES: Trinity Parkway - 2025 P

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15200 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	84.2	175.5	375.2

TABLE 2025 P-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive south of Hammer Lane
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5090 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	87.2	182.2

TABLE 2025 P-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive north of Otto Drive
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 2500   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	90.8

TABLE 2025 P-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Otto Drive and Whitewater Lane
NOTES: Trinity Parkway - 2025 P

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9160 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	100.1	215.3

TABLE 2025 P-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Whitewater Lane and Blackswain Place
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9160   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	100.1	215.3

TABLE 2025 P-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Blackswain Place and Surgeon Road
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9360 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.91

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	101.6	218.5

TABLE 2025 P-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive south of Surgeon Road
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10460 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	63.3	135.9	292.4

TABLE 2025 P-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive north of Hammer Lane
NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9660   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	60.1	128.9	277.3

TABLE 2025 P-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive south of Hammer Lane
NOTES: Trinity Parkway - 2025 P

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4200   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	74.1	159.3

TABLE 2025 P-23

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006

ROADWAY SEGMENT: Regatta Drive south of Eight Mile Road

NOTES: Trinity Parkway - 2025 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 3650 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 61.24

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	67.6	145.1

TRINITY PARKWAY EXTENSION PHASE 2

FHWA TRAFFIC NOISE MODEL PRINTOUTS

2035 PLUS ATLAS TRACT/THE PRESERVE

TRAFFIC NOISE CONDITIONS

TABLE 2035 P-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road west of Regatta Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36840 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
95.0	183.0	383.4	820.7

TABLE 2035 P-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road east of Regatta Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 44050 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
104.1	204.6	431.2	924.2

TABLE 2035 P-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road west of Trinity Parkway
NOTES: Trinity Parkway - 2035 P

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 55750 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
118.2	237.6	503.6	1080.9

TABLE 2035 P-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Eight Mile Road east of Trinity Parkway
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 77110 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 48 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
142.5	292.9	624.2	1341.4

TABLE 2035 P-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive east of Shima Tract Parkway
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15420 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.99

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	84.9	177.1	378.8

TABLE 2035 P-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive west of Askland Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35850 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
70.6	145.0	308.9	663.7

TABLE 2035 P-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Otto Drive between Askland Drive and Mariners Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43860   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
79.6	165.3	353.0	759.1

TABLE 2035 P-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Hammer Lane between Askland Drive and Mariners Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40400 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.17

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
75.8	156.7	334.3	718.7

TABLE 2035 P-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Hammer Lane east of Mariners Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 54100   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.72

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
94.4	191.3	406.3	872.4

TABLE 2035 P-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway south of Eight Mile Road
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 34960   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.05

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
65.7	141.0	303.4	653.5

TABLE 2035 P-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway north of McAuliffe Way
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36220   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
71.0	145.9	311.0	668.3

TABLE 2035 P-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Trinity Parkway south of McAuliffe Way
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32490 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
66.6	136.0	289.4	621.6

TABLE 2035 P-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive north of Otto Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31290 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
65.2	132.7	282.2	606.2

TABLE 2035 P-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive south of Otto Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19100   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	97.0	203.8	436.6

TABLE 2035 P-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive north of Hammer Lane
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 34720 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
74.2	144.3	303.2	649.6

TABLE 2035 P-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Askland Drive south of Hammer Lane
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25260   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 36   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
63.6	118.7	246.2	525.9

TABLE 2035 P-17
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive north of Otto Drive
NOTES: Trinity Parkway - 2035 P

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1600   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.23

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	67.5

TABLE 2035 P-18
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Otto Drive and Whitewater Lane
NOTES: Trinity Parkway - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8800   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	97.5	209.7

TABLE 2035 P-19
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Whitewater Lane and Blackswain Place
NOTES: Trinity Parkway - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8800 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.64

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	97.5	209.7

TABLE 2035 P-20
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive between Blackswain Place and Surgeon Road
NOTES: Trinity Parkway - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9000   SPEED (MPH): 35   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 63.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	98.9	212.8

TABLE 2035 P-21
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive south of Surgeon Road
NOTES: Trinity Parkway - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10100   SPEED (MPH): 40   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	61.9	132.7	285.7

TABLE 2035 P-22
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive north of Hammer Lane
NOTES: Trinity Parkway - 2035 P

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11800 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.33

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	68.6	147.2	316.9

TABLE 2035 P-23
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Mariners Drive south of Hammer Lane
NOTES: Trinity Parkway - 2035 P

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4770 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 62.40

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	80.7	173.4

TABLE 2035 P-24

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Regatta Drive south of Eight Mile Road
NOTES: Trinity Parkway - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11290 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.6	143.0	307.7

TABLE 2035 P-25
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Shima Tract Parkway north of Otto Drive
NOTES: Trinity Parkway - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13560 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.52

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	60.5	129.9	279.6

TABLE 2035 P-26
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/25/2006
ROADWAY SEGMENT: Shima Tract Parkway south of Otto Drive
NOTES: Trinity Parkway - 2035 P

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12890 SPEED (MPH): 35 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.6	125.6	270.3
